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TO THE PAINT AND OIL TRADE.

THE druggists throughout the country, who are the chief dealers in paints and oil, rarely subscribe to more than one trade paper, and that, almost invariably, is one specially devoted to drugs and medicines, from which they usually obtain all the information they require in the abbreviated price lists published by them. This journal, the most popular of its class, has probably a larger circulation among these dealers than any other. An advertisement of paints, oils, varnishes, etc., in its pages is seen by a much larger number of the legitimate customers of the paint trade than it can be elsewhere. If it is desired to reach the manufacturers, importers, or large jobbers of paints and oils, there are other papers of more frequent issue which are probably better for the purpose than this; but if it is wished to reach the greatest number of dealers—those who sell to consumers—then NEW REMEDIES is offered for consideration with confidence. The force of these statements will be apparent to all wide-awake business men.

AT this season novelties in druggists' sundries are in order. Any article of merit sent the editor will be illustrated and described in the appropriate department of this paper, without charge.

SUBSCRIBERS who may at any time receive specimen copies of NEW REMEDIES will advance the interests of the journal and confer a favor on the publishers by handing them to some friend in the trade who should subscribe.

EDITORIAL.

THE occurrence, so nearly together, of the meetings of the British Pharmaceutical Conference and the American Pharmaceutical Association, brings to us an embarrassment of riches in the shape of fresh matter for this number. In both instances the attendance appears to have been somewhat diminished by holding the meetings at the extreme limits of the territories rather than in more central localities, but more than corresponding advantages have resulted to the interests of both societies. The character of the papers was very creditable in each instance, and neither association appears to have suffered from an undue infliction of ethical discussions, although the right of druggists to prescribe, in the British Conference, and the question of revision of our Pharmacopœia, in the American Pharmaceutical Association, threatened the peace of the respective assemblies. The American Pharmaceutical Association have every reason for satisfaction with the choice of a president this year.

MR. WILLIAM SAUNDERS, of London, Ontario, President-elect, is well known by reputation to nearly all the pharmacists of the country. He is a native of Devonshire, England, where he was born in 1836, his first experience in pharmacy being when he was fifteen years of age, at which time he became an employee in a drug-house. Soon afterwards he came to this continent, and in 1855 he commenced business for himself at London, then a town of more than six thousand inhabitants, and situated in one of the richest agricultural districts of Upper Canada. His business as a dispensing apothecary, through skill and successful management, soon grew to leading proportions, and eventually a manufacturing branch was established, the products of which, in the shape of fluid extracts and other pharmaceutical preparations, are already well known and valued for their reliability.

Since Mr. Saunders became a member of the American Pharmaceutical Association in 1860, he has always been an active participator in its affairs, and his contributions, both to the published proceedings of the Association and to current pharmaceutical literature, have been highly esteemed for their practical character. He has held a number of positions in the Association, having been Vice-President for one term, Chairman of Committee on Papers and Queries, Chairman of Committee

on Drug Market, Member of the Committee on the Centennial Exhibition, etc.; etc. Among other positions, he has been elected Vice-President of the Ontario College of Pharmacy, Honorary Member of the British Pharmaceutical Conference, and of the New Hampshire Pharmaceutical Association. He is also the President of the Entomological Society and editor of the *Canadian Entomologist*, Corresponding Member of the Philadelphia College of Pharmacy, and Director of the Provincial Agricultural Association.

AMONG the noteworthy things which transpired during the meeting of the American Pharmaceutical Association at Toronto, were the assemblage of representatives of the teaching pharmaceutical colleges, and the mutual understanding at which they arrived in relation to the standard to be adopted for matriculation, the limiting of the time within which matriculation and the purchase of lecture tickets could take place, requirements for graduation, date of examinations, etc. Somewhat extensive regulations were adopted, which our limited space prevents our printing in this number. Two meetings were held, and a great variety of questions were discussed, relating to the management of pharmaceutical schools, methods of teaching, nature of instruction given, requirements, etc. Although there were marked differences of opinion upon some questions at the outset, harmony was at length arrived at, and the result of the combination of the schools will be an elevation of their character and standing as educational bodies.

We referred some time since to the establishment of a school of Pharmacy in connection with the Atlanta Medical College, and expressed our doubts as to whether the result would be the furnishing of adequate means for instruction to the students, or simply profit for the teachers. There is no doubt that the holding of the next meeting of the Association in Atlanta will have a beneficial effect upon the profession in that region, and the character of the school of pharmacy will share in the common advancement.

THE number of applications for samples for analysis, in competition for our monthly prize, is considerably greater than that of the answers we receive in return. We have thus far sent a sample each month to those who have once requested it; but, in the case of those who make no response, we shall discontinue this practice after the next issue has been made.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

On the Decomposition of Ammoniacal Salts by Quinia.

MESSRS. CAZENEUVE AND CAILLOL, in the course of an article on the preparation of cinchonia (*Répert. de Pharm.*, 1877, p. 353), mention some singular results obtained by Professor Glénard, of Lyons, in his investigations on the chemical behavior of quinia and cinchonia, which make it possible to distinguish these two alkaloids from each other under the microscope. Quinia, mixed with distilled water, presents under the microscope an amorphous character, if it has been prepared from one of its salts by precipitation with a base. Cinchonia, under the same circumstances, likewise appears amorphous. But, on adding a drop of a solution of sulphate, oxalate or phosphate of ammonium to the mixture, almost instantly the quinia is seen to change into crystalline needles of sulphate, oxalate, or phosphate of quinia, while cinchonia remains unaltered. Further details are expected.

Citrate of Sodium and Potassium.

MR. TH. PUSH, of Dessau, Germany, has made a complete series of citrates, corresponding to the officinal tartrates, with a view of finding a stable compound. He ascertained that the double * citrate of sodium and potassium is an extremely stable compound, even when exposed to the air for a long time. He prepares the salt by dissolving 100 parts of citric acid in water, adding 108 parts of pure potassium carbonate and 221 parts of crystallized sodium carbonate, filtering, evaporating and crystallizing. The crystals are allowed to drain, and the mother-liquor is further concentrated, until, on cooling, it solidifies to a crystalline mass, which is used in the condition of powder.

The author, however, does not give the composition of the salt.—*Arch. d. Pharm.*, July, 1877, 47.

Canada Balsam as an Excipient for Pills.

THE objection raised by many physicians against old pills, which have become hard and almost or entirely insoluble in the stomach, led Mr. Dannecy, of Bordeaux, to search for a substance which would retain the pills permanently soft, and yet sufficiently solid to prevent them from flattening. He believes to have found this in Canada balsam, mixed with one-third of its weight of pure wax. This mixture has the property, even in small proportion, of binding together the component parts of the pill, of rendering hard substances soft, and of giving solidity to deliquescent bodies. He has prepared, by means of this

* While tartaric acid, $H_2C_4H_4O_6$, is a *bibasic* acid, citric acid, $H_3C_6H_5O_7$, is a *tribasic* acid. Hence, a neutral citrate of sodium and potassium must contain, in place of the H_2 of the acid, either Na_2 K, or Na K_2.

excipient, pills of potassium acetate, containing 0.20 gm. (3.2 grains) each, and remaining entirely unaltered. All pills prepared in this manner become soft at a comparatively low temperature, and retain their ingredients unchanged.—*L'Union Pharm.*, 1877, 168.

The Brazilian Wax-Palm.

THE Wax or Carnauba Palm of Brazil, is one of those useful plants which bountiful nature seems to have especially designed to supply a great many human wants. The natives inhabiting the extensive plateaus in the northern provinces of Brazil, which are covered with forests of carnauba trees, derive from it nearly all their means of existence and comfort. The wood, which is very light, but exceedingly hard, is used as timber for building houses, fences, and for making all kinds of household furniture and utensils; the leaves are used as a covering for roofs, and for beds, the leaf fibres are woven into mats, baskets, hats, and brooms; the leaf-stalk contains an elastic marrow answering the purposes of cork; the hollow stems of the tree are used as water-conduits; and the fruit-kernels, roasted, furnish an agreeable beverage, known as café de carnauba. But the most valuable product of the tree is the so-called *carnauba* or *carnahuba* wax (palm-wax), which has become a very important article of commerce, although it has only been in the market for about 30 years.

FIG. 1.—Copernicia Cerifera, Mart.

Copernicia cerifera Mart., *Corypha cerifera* Arr., natural family Palmaceæ, has a stem from 6 to 12 inches in diameter, and attains a height of 30 to 100 feet. The leaves arise from the extreme end of the stem, are of a bright green color, fan-shaped, and terminate at the apex in sharp points. The solitary flowers along the spadix are very small (see cut), hermaphrodite, with a three-petalous corolla, externally of a green, internally of a chestnut-brown color. The fruit (see cut) consists of an exterior slightly sweet pulp, which is considered a great delicacy, and is covered with a dark red or almost black skin. It encloses a round, hard seed containing an oleaginous almond-like kernel. The latter, when pounded, yields a sort of flour, forming an agreeable nutriment with milk, or a refreshing drink when mixed with water and sugar. The terminal leaf-bud, or so-called palm cabbage, is quite small, but extremely savory and nutritious, as it contains an abundance of fecula resembling sago.

The wax is secreted by scales situated in the axillæ of leaves, and is found on both surfaces of the scales, that on the upper surface readily detaching itself and falling to the ground, when the tree is shaken. This is, however, not the way in which it is collected; but the young leaf-buds and scales are cut off (leaving a portion standing for another harvest), dried for a few days in the sun, then cut into pieces and pounded until all the powdery part has fallen out. This is melted in earthen vessels with a little water, and then forms the crude carnauba wax. At Aracati, in the province of Ceará, the leaf-buds are collected in heaps, and covered with dry palm-leaves, to protect them from the northeast wind During a lull, which mostly takes place during the night, the various families collect round their respective heaps and perform the most delicate part of the wax manufacture, namely, the separation of the wax-powder. The men split the buds with knives, and hand them to the women, who carefully beat out the powdery substance with small sticks upon an outstretched cloth. It is then melted as stated above.

Carnauba wax has a bright yellow color, with a greenish shade, is harder than beeswax, melts at 84° C. (184° F.), and has a spec. grav. of 0.999. According to Nevil Story-Maskelyne,* it consists mainly of compound ethers of melissyl-alcohol, $C_{30}H_{62}O$, which may be obtained from it in considerable quantity by saponification; it also contains another alcohol, $C_{23}H_{48}O$, small quantities of resin,

* *Jour. Chem. Soc.*, vii., 87.

and a substance melting at 105° C. (221° F.), and having the composition $C_{39}H_{82}O_3$. But, according to Berard,* that portion of the wax which is soluble in alcohol is free cerotic acid, $C_{27}H_{54}O_3$, while the remainder corresponds to melissylic ether.

The wax is used, mixed with tallow, for the manufacture of candles, which are prepared in Brazil in a most primitive way. They have a yellow or even dark brown color, it being very difficult to deprive carnauba of its coloring matter. The wax is also extensively used in Europe and in the United States for preparing varnishes, waxed leather, candles, etc.

In the province of Ceará there are districts, especially along the river Jaguariba, which are completely covered with carnauba forests, sometimes extending over twenty square miles without a gap. These forests are a perfect blessing to the natives, especially during the dry season, from about July to November, as the carnauba palm is capable of resisting the most scorching heat and the longest drought, and the young leaves may be used by cattle.

The root of the tree has also been used medicinally, under the name *carnaulia* root. It is several feet in length, about three-eighths of an inch thick, with a thick, friable cortex of a mixed grayish and reddish-brown color. It is supposed by the natives to be an efficient substitute for sarsaparilla, but is entirely destitute of medicinal properties.

Fig. 2.—Copernicia Cerifera, Mart.

Ethyl Bromide—a New Anæsthetic.

Ethyl bromide, bromide of ethyl, or bromethane,† C_2H_5Br, is a colorless liquid, of pleasant ethereal odor, biting taste, has a specific gravity of 1.470, boils at 41° C. (106° F.), and takes fire only with difficulty. It is formed during the action of bromine and phosphorus upon alcohol, or by causing olefiant gas to come into contact with hydrobromic acid gas, or by heating alcohol with amyl bromide. It is best prepared by pouring upon 1 part of white or red phosphorus, in a retort, 40 parts of alcohol of 0.840, adding 7–8 parts of bromine in rapid drops, distilling, washing the distillate with water, drying it with calcium chloride, and rectifying it. It is but little soluble in water, and is miscible with ether and alcohol. When heated with water, it splits into ether, ethene (olefiant gas), oil of wine, and hydrobromic acid; with potash it yields ether and potassium bromide, and with aqueous ammonia it forms hydrobromate of ethylamine.

When inhaled, it produces, according to Rabuteau,* a complete anæsthesia, as rapidly or more so even than chloroform. This has been shown by experiments upon animals. Dogs are completely anæsthetized by inhaling it from a sponge for two to five minutes, and they rally from it quicker than after the administration of chloroform. On injecting subcutaneously a solution of muriate of narceia or morphia, before anæsthetizing with ethyl bromide, similar appearances are noticed as when these substances are administered previous to chloroform, namely, consciousness is partly retained, while insensibility to pain is complete.†

Compared with chloroform, ethyl bromide cannot be called caustic, nor even irritating. It may be applied without danger, subcutaneously, upon mucous membranes, and even in the meatus of the ear. In this case it has an advantage over chloroform and ether, as the former is too irritating, and the latter is too volatile. In doses of 1 to 2 grammes, administered in man, it does not interfere with the appetite, does not produce anæsthesia, but alleviates pain. In whatever way it may be ingested into the organism, it is entirely, or almost entirely, eliminated by the lungs; only traces of it can be detected in the urine.

* *Bull. Soc. Chim.* (2), ix., 41.

† Sometimes also called hydrobromic ether.

* *Zeitsch. d. Oester. Apoth. Ver.*, 1877, 239, from *Compt. R.*, 83, 1294.

† On this condition, called Nussbaum's Narcosis, see *March number*, page 81.

On a very delicate Indicator for Acids and Alkalies.

A NUMBER of substitutes for litmus have been proposed during the last few years, among which rosolic acid and fluoresceïn were considered to be the most delicate and reliable. But even these substances have some drawbacks, either not being themselves entirely colorless before supersaturation, or else giving similar reactions with certain other substances, independently of their being alkaline or acid. A much better substitute has been cyanin (anthocyan, flower-blue), which, however, is only to be obtained with great difficulty.

Dr. E. Luck now draws attention to a new substance, *phenol-phtaleïn*, which was discovered by Baeyer a few years ago,* and which may easily be prepared by heating phenol with phtalic anhydride and concentrated sulphuric acid to 120° C. (248° F.). [The compound is formed according to the following reaction, the sulphuric acid effecting merely the separation of a molecule of water :

$$C_8H_4O_3 + 2C_6H_6O = C_{20}H_{14}O_4 + H_2O$$

phtalic anhydride + phenol = phenol-phtaleïn + water.]

This body is *entirely colorless* in *neutral or acid* solutions, but exhibits an *intense purple* color in the presence of the least excess of *alkali*. The change of color is instantaneous, and its depth intense, so that even mere traces of the indicator and of an alkali become recognizable. One part of phenol-phtaleïn in 100,000 parts of water is still turned perceptibly red by the least trace of an alkali, and decolorized by a trace of acid. It is recommended to dissolve 1 part of phenol-phtaleïn in 30 parts of alcohol, and to add to about 80–100 cc. of the liquid to be titrated, one, or at most two drops of the solution. If the liquid is acid, a slight opalescence first makes its appearance, which disappears on stirring. The smallest drop of an alkaline or acid solution will produce in the liquid the change from colorlessness to purple, or vice versa.—*Zeitsch. f. anal. Chem.* 1877, 332.

Phtalic Acid and Phenol-Phtaleïn.

As it is quite probable that some of our readers would like to prepare the new indicator spoken of in the previous article, we will give a short account of the preparation of phtalic acid and phenol-phtaleïn.†

Phtalic Acid.—A mixture of 1 part of naphtalin and 2 parts of potassium chlorate is slowly added, in small portions, to five times its weight of ordinary hydrochloric acid. The mixture, containing chlorinated addition- and substitution-products of naphtalin, is thoroughly washed with warm water (best by decantation); then dried with a very gentle heat, to prevent the mass from melting together, and the accompanying volatile chlorides extracted by several hours' digestion with cold petroleum-benzin. The residue is washed with the same menstruum, and again dried below 80° C. (176° F.). It now consists mainly of naphtalin tetrachloride. This is heated on the sand-bath with five to six times its weight of nitric acid, of a specific gravity not exceeding 1.350, until the liquid has become homogeneous, which happens after a few hours. The excess of nitric acid having been evaporated off, on cooling, phtalic acid crystallizes out. It is purified by repeated crystallization from boiling water. In this condition it is hydrated ($C_8H_4O_3,H_2O$), but by melting it, and heating at 180° C., as long as water is given off, it is converted into *phtalic anhydride* $C_8H_4O_3$), some of which, however, is lost by volatilization. It should be purified by sublimation. 100 parts of naphtalin yield about 30 parts of phtalic anhydride.—(C. HAEUSSERMANN in *Pol. Journ.*)

Phenol-Phtaleïn.—10 parts phenol, 5 parts phtalic anhydride, and 4 parts of concentrated sulphuric acid are heated for several hours to 120°–130° C. A red mass results, which, after boiling in water, yields a resin convertible into a yellowish white powder by exhausting it with boiling benzole. Dissolved in solution of potassa, and precipitated by hydrochloric acid, it is obtained as a flocculent resinous precipitate of nearly white color, settling together in a curdy mass.

Sugar in Pharmacy.

AT the recent meeting of the British Pharmaceutical Conference, Mr. Charles Symes read a paper on the above subject, of which the following is an abstract taken from the *Chemist and Druggist:*

"The author remarked on the scantiness of the pharmaceutical literature of sugar, and thought that as a pharmacopœial article it should not be considered so insignificant as to be unworthy of attention. Sugar had several functions in pharmacy. It was an adjunct, accessory, or excipient; it increased the activity of medicines by mechanical division, as in the case of calomel; it entered into chemical combination, as with liquor calcis sacch. and the less-known iron compounds (see Dr. Gladstone's paper, *Jour. Chem. Soc.*, vii., 195). It acted as a preservative, as in ferri carb. sacch., and formed one of the best media for the administration of nauseous medicines. Its preservative powers were retained only so long as it was chemically unchanged, the first appearance of fermentation destroying them.

"In the choice of sugar for pharmaceutical purposes, purity was the first requisite, and was easily obtained. The makes of Say, Tate & Son, and the Eastern Sugar Refinery, Boston (England), were of about equal purity. They yielded ash equalling from 6 to 12 per 10,000 of calcium and potassium salts, and only a mere trace of glucose. The prejudice against the use of beet-root sugar was due to the greater impurity of the crude product and the occasional presence in the refined article of traces of volatile oil and potassic nitrate. The latter impurity gave rise to a trace of nitric acid, which in many cases acted as a decolorizer.

"When thoroughly refined, beet-root sugar was

* *Ber. d. Deutsch. Chem. Ges.*, 4, 658.

† After *Pharm. Zeit. f. Russl.*, 1877, 423.

fully equal to cane sugar; in fact, Say's lump, a standard of purity in the sugar trade, was for many months in the year prepared from beet-root sugar alone.

"Some druggists used large crystals, under the impression that this was the purest form, but the author had not found this to be the case, and the large crystals were less soluble than the small ones.

"Solubility was an important quality. When sugar is heated continuously in the presence of water, the first change of fermentation, that from sucrose to glucose, takes place, and though active fermentation does not necessarily follow, it becomes more easy. With a very soluble sugar, simple agitation in the cold would produce a syrup of the requisite density, but in any case it was best to add the sugar to the water already boiling, and so to avoid the long exposure to heat required in gradually warming them together. Syrups containing acids were much more readily inverted, but the power of acids in inversion was various. The following table of the invertive power of acids at different atmospheric temperatures was published in 1874 by Arno Behr. The action of hydrochloric acid was taken as the standard, 100.00:

Inverting Power of Acids on Sucrose. (Arno Behr.)

Acids.	211 hrs. at 13°–18° C.	115 hrs. at 19°–27° C.	78 hrs. at 25°–27° C.
Acetic	1.2	1.3	1.6
Butyric	—	1.9	2.5
Isobutyric	—	2.2	2.5
Succinic	—	3.5	4.0
Malic	—	8.1	8.8
Citric	8.2	9.2	10.2
Formic	—	9.2	9.6
Lactic	10.2	10.4	9.9
Tartaric	11.4	13.4	13.8
Phosphoric	24.2	25.8	26.9
Oxalic	49.6	53.1	54.5
Sulphuric	83.9	83.1	84.2
Hydrochloric	100.0	100.0	100.0
Nitric	100.1	100.4	100.1

Thus, acetic acid had the least and nitric acid the greatest inverting power. Phosphoric acid stood high in the scale. As a rule, the inverting power seemed to increase with the temperature.

Dispensing bottles for syrups should be carefully cleansed each time before refilling. The continental plan of filling the syrups into half-pint bottles, keeping in a dark, cool place, and taking them one at a time into the dispensary, was a very good one. The bottles were not refilled, but replaced. When a new batch of syrup was added to a small quantity of old, there was a great chance of the whole being reduced to the standard of the old.

Syrups which were rarely used, as of roses and saffron, could be conveniently extemporized by making a concentrated solution of the drug, filtering it upon powdered lump-sugar in an evaporating basin, evaporating to dryness, with constant stirring, and powdering the residue. The powder would keep for years, and a clear syrup could be readily prepared by shaking it with the required quantity of water.

The usefulness of sugar in preserving solutions of ferrous salts from oxidation was probably due to the fact that saccharated water contains less air than distilled.

In the discussion that followed the paper, Dr. Oxland, of Plymouth, an old sugar-refiner, said that the continental makers often used ultramarine to disguise the imperfect refining of their sugars. English makers would consider such a course *infra dig.* The speaker claimed to be the first refiner who had used beet exclusively for the production of loaf sugar. This he had done by the employment of superphosphate of alumina instead of blood for defecating the juice. Formerly only about 50 per cent. of beet could be employed. He thought beet yielded sugar in every respect as good as cane, though he could always distinguish it by the crystals, the beet being about double the length of the cane, which were more square.

Hypodermic Use of Apomorphia for the Prevention of Epilepsy.

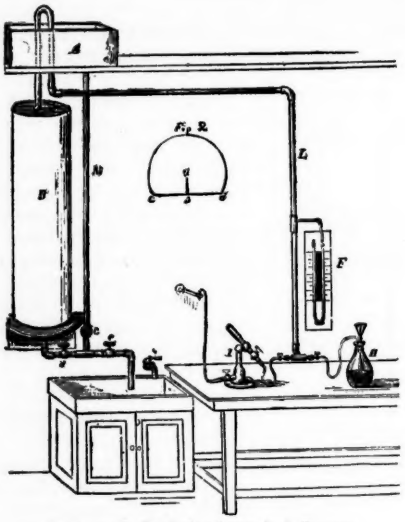
E. VALLENDER reports in the *Berliner klin. Wochenschrift* the results which have followed in several cases, when hypodermic injections of apomorphia have been employed for the arrest of epileptic convulsions. One-sixteenth and less of a grain was the dose employed, and in cases where sufficient time elapsed between a recognized aura and the advent of the convulsion, the attacks were both diminished in frequency and rendered less severe. When the use of the apomorphia was suspended, the convulsions, in some cases, showed a tendency to return.

Apparatus for producing a Blast or Vacuum in Laboratories.

THE apparatus shown in the adjoining illustration was contrived by Mr. G. Henry Hanks, of New York, and is in successful use in his laboratory. It will produce either a blast or a vacuum at will, and may be thus described: The tank *A* may occupy any convenient position at an elevation of about ten feet above the bottom of the galvanized-iron cylinder *B*, into which the water can freely flow through the half-inch iron pipe *M*. A ball-cock, not shown, regulates the supply of water to the tank. The cylinder is ten inches in diameter and between five and six feet high. When a blast of air is required, the globe-valves *C* and *D* are opened and *E* is closed. As the water enters the cylinder from below and gradually rises, the air is compressed, and the level of mercury in the manometer *F* will indicate the pressure. When the mercury has risen one inch the compressed air may be allowed to escape by turning the pillow-cock at *I*, which in the illustration is intended for a gas-burner. The tube *L*

must be carried above the level of the tank, to prevent the passage of water into the air-tubes.

To produce a partial vacuum the cylinder may be partly filled with water, the valve *C* being closed. The valve *E* is to be closed while the cylinder is filling. The compressed air is then



Apparatus for Producing Atmospheric Pressure.

allowed to escape. The valve *E* is opened and the water allowed to run into the sink. This causes a partial vacuum in the cylinder, and the tendency of air to pass in through the tube *L* to fill this vacancy can be utilized in many ways. In localities remote from places where the sheet-iron cylinder could be had, it and the tank as well may be replaced by a couple of tight barrels.

A New Medicinal Solution of Phosphorus.

BY W. W. URWICK.*

In consequence of the able paper by Mr. Williams, on the administration of phosphorus, read before the British Pharmaceutical Conference in 1874, giving a formula for the solution of phosphorus in glycerine and alcohol, and pointing out that a portion of the phosphorus became oxidized during the process, the author was led to make one or two experiments with the desire to produce a formula not liable to change, for the administration of phosphorus in known doses, and capable of being administered without admixture, if required. With this idea he prepared phosphorus pills, and coated them with a solution of albumen; but after a time the pills ceased to be luminous on testing them, showing that the phosphorus had disappeared, and was no longer present in the free state. Mr. Hampson suggested to him that the albumen had become porous by drying. Though at first foiled, feeling he was on the right track, Mr. Urwick thought it possible to make a solution that should be stable and should contain known doses.

He adopted the suggestions made by Mr. Williams at the British Pharmaceutical Conference, with the following modifications: he dissolved 2 grs. of phosphorus in absolute alcohol and glycerine, at a temperature of about 170° Fahr., with the addition of a little cane sugar and sugar of milk, which addition prevented any portion of the phosphorus passing into an acid state during the time of solution. When the solution was cold he added the albumen of one egg, first mixed with a little glycerine and alcohol, and then sufficient glycerine to measure 10 ounces, the strength of the finished product being $\frac{1}{40}$ of a grain to the drachm, which is quite strong enough to admit of its being preserved a long time without change, and taken, if required, without dilution.

Some of this solution has been kept for more than two years without the phosphorus passing into the amorphous state, or the solution becoming acid or losing its luminous properties when agitated with water in the dark. In no case as yet has any change occurred, except where the solution has been, for the purpose of experiment, exposed to the strong rays of the sun, day by day, for a period of nearly three months, when a slight trace of amorphous phosphorus became visible. So thoroughly does the albumen protect the phosphorus that when the solution has been mixed with water, and kept for a week, it still shows phosphorescence on agitation.

Wishing to make the solution somewhat more agreeable to the palate, the author added a few drops of oil of neroli to the albuminated solution of phosphorus, when, to his surprise, in an instant the solution lost its smell and flavor of phosphorus, and also its power of showing phosphorescence when mixed with water and agitated; indeed, the phosphorus seemed at once blotted out of existence, but blue litmus remained unchanged, pointing out that it had not been oxidized. The question, "How does the oil of neroli prevent oxidation?" was submitted to the conference. On this point, at present, the author could give no satisfactory answer; but he found, on applying a strong heat to the solution with neroli, the peculiar ring-like fumes of phosphorous pentoxide were formed. This may not be a crucial test, but points to the fact of the phosphorus being held in the solution with neroli in a free state.

Yolk of egg deprives the solution of phosphorus of its luminosity, but still appears to hold the phosphorus in a free state. Indeed, the idea has occurred to the author that the phosphorus natural to the egg occurs in the free state. Possibly the oily matter in yolk of egg is the agent which absorbs the phosphorus from the author's solution. On adding excess of the solution to the yolk, its power of absorption is overcome, and phosphorescence reappears.

Tincture of orange at once destroys the phos-

* From the report of the meeting of the Br. Pharm. Conf., in the *Chemist and Druggist* of Aug. 15, 1877.

phorescence, smell, and flavor, as does also tincture of gentian. With tincture of calumba, tincture of quassia, and tincture of nux vomica, the phosphorescence, smell, and flavor remain unaltered.

Essence of lemon deprived the solution of its phosphorescence, but the smell and flavor remained in a modified form.

Oil of cloves also deprived the solution of its phosphorescence, smell, and flavor; but on agitation with water, and then standing, flashes of phosphorescence appeared at intervals, similar to electric sparks, and on keeping for two days the phosphorescence reappeared to a slight extent, but soon passed away.

With orange-flower water the solution remains luminous nearly as long as with common water, retaining the smell and flavor of phosphorus. Milk destroys the phosphorescence, but the flavor and smell remain in a slightly modified state. Within this last week or two these points have presented themselves to his observation, but up to the present time the author has not been able to trace the chemical change, if any, that takes place in the phosphorus, or what combination it forms with essential oils or milk.

The formula referred to is as follows:

Alcohol	1½	oz.
Cane sugar	½	oz.
Sugar of milk	¼	oz.
Phosphorus	2	grs.
Glycerine to	10	oz.

Albumen of one egg.

M.

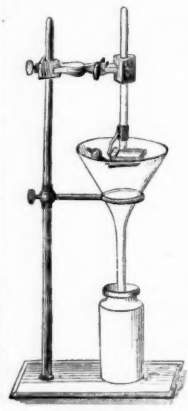
After the reading of Mr. Urwick's paper, Professor Attfield showed some of the emulsion mixed with water. When the phosphoric fumes filled the bottle, the addition of a single drop of oil of neroli at once stopped the fumes and removed the phosphorous odor from the mixture.

Preparation of Pure Nitrogen Gas.

Most text-books of chemistry give a method of preparing nitrogen, which is based upon the decomposition of ammonium nitrite. But this method is practically useless, because it is necessary to employ an absolutely pure salt, which is very difficult to prepare, and even then traces of nitric oxide accompany the product. On mixing a solution of commercial sodium nitrite ($NaNO_2$) with a solution of ammonium sulphate or nitrate, the neutral or alkaline mixture undergoes hardly any change. Addition of acetic acid produces an effervescence of nitrogen, mixed, however, with considerable quantities of nitric oxide. This may be entirely prevented by adding to the mixture of the two salts a strong solution of potassium dichromate, until the free alkali is neutralized and the dichromate is present in considerable excess. It is then only necessary to warm the mixture, when pure nitrogen is evolved as easily as carbonic acid gas from carbonates. If, however, the salts employed contain chlorine, the nitrogen must be washed by passing through a solution of soda or potassa.—W. Gibbs in *Ber. d. Deutsch. Chem. Ges.*, 1877, 1387.

Siphon Regulator for Continuous Filtration.

A new contrivance for continuous filtration, rather more complicated than the simple arrangement shown on page 42 of our last February number, has been constructed by Mr. Yvon. The vessel containing the liquid to be filtered is placed at a proper elevation over the filter, a rubber tube is made to dip with one end to the bottom of the liquid, and the other end is slipped over a short glass tube fastened upright in a retort-stand, and terminating in a point (see Fig.). A metallic band attached to the tube carries a piece of cork, which closes the orifice of the glass tube and turns downward on a hinge, whenever the liquid in the filter ceases to press it upward against the glass tube. This valve, however, is regulated and made more delicate by a metallic globe, movable on a lateral screw-rod, and attached to the back of the valve. By means of it the cork-valve can be made to press upward more or less strongly, depending upon the height of the liquid in the upper reservoir. When the filter is started, it is only necessary to place under it a sufficiently large vessel to hold all the filtrate when it may be left to itself.—*Rép. de Pharm.*, 1877, 426.



Siphon Regulator.

Metallotherapy.

We have already mentioned the experiments made in the Saltpêtrière in the service of M. Charcot (New Rem., p. 143), upon the effects of applying metallic plates to anæsthetic and analgetic surfaces. An editorial in the *British Med. Jour.* of May 19th gives further details of the investigation by a committee from the Société de Biologie, some of which we quote.

The committee have found, in accordance with M. Bury's statements, that there exists in different patients a special *aptitude métallique;* that is to say, that sensibility returns under the influence of a certain metal. This is determined by binding on the arm or leg, or anæsthetic part, plates of gold, copper, zinc, etc. After from ten to fifteen minutes, it is found that, if the metal employed be the proper one, sensation begins to return at the point of application. The patient feels a sensation of heat or numbness; the part becomes red, and pricking with a needle causes great pain at the level of the bracelet and for some distance above and below it. At a given distance, well-marked dysæsthesia, or perverted sensibility, becomes established.

When the metal is applied to the forearm, the sensibility gradually extends to the hand, and the temperature rises above that of the other side, as determined by a thermometer fixed in each hand. At the same time the muscular power rises very considerably above that which existed before the commencement of the experiment. Curiously, also, needle-punctures now bleed freely; whereas, in the anæsthetic condition scarcely a drop of blood showed itself, even when the needle was thrust through the limb. What is true of common sensibility, is also true of the special senses. By the application of the metal at or near the organs of special sense, a more or less complete restoration is effected. The effect, however is very transitory, and next day the anæsthesia is found to have returned. The patients generally complain of great fatigue, headache, and a tendency to sleep after each experiment. But perhaps the most remarkable phenomenon of all is that the return of sensibility, under the influence of the metallic plates, is effected at the expense of the sensibility of the sound side. This takes place in a symmetrical manner. Thus, if the sensibility be restored to the arm by the application of the metal, it is found that the corresponding part of the sound arm has lost its normal sensibility. The same is true of the organs of special sense, and of temperature and muscular power. It would seem, therefore, that there is no real gain, but that a *plus* on one side is accompanied by a *minus* on the other.

Experiments on two cases of hemi-anæsthesia of cerebral origin led to improvement which was permanent (the other cases were of a hysterical nature). The committee offer no explanation of these facts.

On Copaiba-testing.

M. Louis Siebold, at the last meeting of the British Pharmaceutical Conference, said that most of the tests for copaiba described were utterly fallacious, and were applicable to certain kinds of balsams only. The exceedingly variable proportions of volatile oil and resin in different samples of copaiba caused their density and appearance to be also variable. Benzol could not be used as an indicator of purity, as the various adulterants of copaiba are themselves soluble in it; and one of them, for the detection of which it was principally intended, viz., gurgun balsam, or wood oil, was the more soluble in it the purer the benzol. Benzoline, however, would answer the purpose, as a mixture of one volume of balsam with four volumes of this liquid would, after an hour's setting, deposit a bulky sediment if gurgun oil were present, whereas a pure balsam thus treated with either forms no deposit at all, or an exceedingly slight one. Flückiger's test ("Pharmacographia," p. 206) was also a very good one. Fluorescence could under no circumstances be regarded as an indication of an adulteration, as many samples of genuine balsam possessed that property. The magnesia test, which has been recommended for the detection of fatty oils and also of gurgun balsam, was entirely fallacious, as the power of dissolving a given weight of magnesium carbonate must depend on the amount of acid resin present, which was exceedingly variable in different samples. For the same reason the ammonia test, too, was useless. The property of forming a perfectly clear mixture with three volumes of absolute alcohol was not possessed by many genuine samples of copaiba, and especially not by Para balsam; but an experienced manipulator might, nevertheless, be able to detect an admixture with fixed oil, by means of alcohol, from the nature of the deposit found after standing. The simplest and best plan for detecting such an admixture consisted in the evaporation of a small quantity of the balsam on a watch-glass, for in the presence of fatty oil the remaining resin would not be brittle. If it were pulverizable, the balsam was certainly quite free from fatty oils.

Muter's test (see New Remedies, January, p. 11), as a qualitative test, was much inferior to the one just named, and for quantitative purposes was far from being accurate. Mr. Sebold relied, for detection of oil of turpentine as an adulteration, on the great difference between the boiling-points of this oil and the oil distilled off from copaiba. The first few drops of oil passing over during distillation with water or steam would consist mainly of the adulterant, which could at once be recognized by its odor upon heating a drop on a watch-glass.—*Chemist and Druggist.*

New Apparatus for the Estimation of Urea.

The estimation of urea appears to be a fruitful field for the invention of special apparatus and special methods of assay; no less than 16 different methods having been described in the journals within the last 10 or 12 months. Dr. A. Dupré has constructed a new apparatus for estimating urea by means of sodium hypobromite,* which somewhat resembles Apjohn's apparatus, described in the *Chemical News* of Jan. 22, 1875. A burette, *a* in Fig. 1, having a lateral supply tube, put upside down into a cylinder with water, constitutes the part for measuring the gas evolved. It can be raised, lowered, and fixed at any height by means of the clamp-rod *b b*. The reaction between the urine and the hypobromite is effected in a small flask or bottle, fitted up as for the estimation of carbonic anhydride (carbonic acid gas) in carbonates. The two forms generally used are shown in *c*, Fig. 1, and in Fig. 2. To work the apparatus, the pinchcock *d* is taken off, and the burette is let down to the zero point of the scale. Twenty-five c.c. of the hypobromite solution are next put into the bottle, and the pipette, *e*, is filled with urine in the usual manner, the india-rubber tube at *f* being detached for this purpose. Before putting the stopper back into the flask, it is

* Sodium hypobromite solution is made by dissolving 100 grms. of caustic soda in 250 c.c. of water, and adding 25 c.c. of bromine to the solution so produced. $2NaHO + Br_2 = NaBr + H_2O + NaBrO$.

advisable to suck up the urine slightly, so that the extreme point of the pipette becomes empty, and there is no danger of a drop of urine falling into the hypobromite prematurely. This is best done by compressing the india-rubber tube attached to the pipette between the finger and thumb of one hand, above the pinchcock of course, and drawing the tube so compressed through the fingers for an inch or so. If now, before relaxing the pressure on the tube, the pinchcock is opened for a moment, the urine will be sucked up to the desired extent. If, previous to use, the point has been slightly greased inside, the urine will show no tendency to run back, and the pipette can be moved about without fear. The stopper with the pipette is now to be firmly inserted into the bottle, the india-rubber tube being slipped back over *f*, and the bottle put into a vessel with cold water. The pinchcock *d* is to be fixed on, and the burette raised several inches, when, if all is tight, the column of water in the burette will remain stationary. The urine can now be allowed to run into the hypobromite as rapidly as may be convenient, and a thorough mixing effected by a gentle rotary motion of the bottle. According to Hüfner, the reaction is the more complete, the more rapidly the two fluids are mixed. In from one to two minutes the reaction will be almost over. The bottle should now be shaken briskly several times. This causes an appreciable amount of effervescence, and is the means of bringing the reaction sharply to the same point each time. In five minutes from the beginning of the experiment the bottle is to be put into cold water, the burette let down into the cylinder for a few moments, then raised until the water inside and out is on a level, and the amount of gas collected can then be read off. If the arrangement, Fig. 2, is preferred, the 5 c.c. urine are to be put into the little test-tube fixed to the glass rod, the stopper is then replaced, and the apparatus arranged and tested as before. By now inclining the bottle in one direction, the little tube can be gradually emptied; by inclining it in another direction, it can be filled with the hypobromite. It is thus easy, alternately to empty or fill the little tube, and thus effectually to wash out the urine. The rest is done as before.

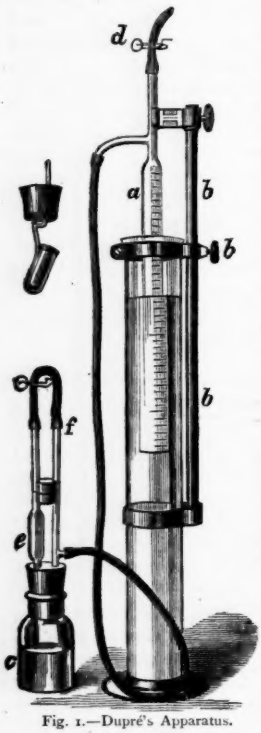


Fig. 1.—Dupré's Apparatus.

When working with 5 c.c. of urine according to this method, and at ordinary temperature, 36.7 cubic centimetres of the burette indicate 0.1 gramme of urea.

Another form of apparatus for accomplishing the same purpose has been constructed by Dr. Maxwell Simpson and Mr. C. O'Keefe, from materials usually found in every laboratory. These are: an ordinary wide-mouthed bottle, *A*, of 1½ oz. capacity; an india-rubber stopper with three holes; a bent pipette, *B*, with its extremity drawn out to a point; a narrow tube, *C*, about 9 inches in length, surmounted by a globe, and furnished with a glass cock, with its extremity also drawn to a fine point and upwards; a narrow gas-delivery tube, *D*, which can be opened and closed at pleasure by means of the pinchcock, *E*; a finger-bowl; and a graduated tube, *F* (Russell and West's scale).

To use the apparatus, the bottle is to be filled with a solution of sodium hypobromite and closed with the india-rubber stopper, through the three holes of which the tubes *B*, *C*, and *D* have already been passed. *C* must also contain water reaching a few lines higher than the glass cock. In closing the bottle care must be taken not to allow any air to be imprisoned between the stopper and the liquid, and that the extremities of *B* and *C* reach to the bottom of the bottle. The end of the delivery tube *D* must then be plunged a few lines below the surface of the water in the finger-glass, a little hypobromite is to be introduced into the pipette *B* and the pinchcock *E* opened, by which means all the air is forced out of the delivery tube. The graduated tube *F*, previously filled with water, is then brought over the extremity of the delivery tube, and the analysis is commenced by introducing 5 c.c. of the urine into the globe *C*, and allowing about one-third of it to pass through the glass cock into the hypobromite solution. According as the gas rises to the top of the bottle, it forces some of the hypobromite into the pipette. When all effervescence has ceased the pinchcock is to be opened, and the gas allowed to pass into the graduated tube. The pinchcock is again closed and one-third more of the urine allowed to flow into the hypobromite, and the gas forced into the graduated tube as before. When the urine has nearly reached the upper surface of the glass cock, a little water is to be added to it, the stopcock opened, and the whole of the urine washed into the bottle, care being taken not to allow the water to pass below the upper surface of the stopcock. Finally, a little hypobromite is to be introduced into the pipette; if necessary, the pinchcock is once more opened, and all the gas swept into the graduated tube. The graduated tube is then transferred to a deep glass vessel containing water, the surface of the water inside and outside the tube brought to the same level, and the volume of gas read off.

The authors state that they have found 37.0 to 37.3 cubic centimetres (uncorrected) of the graduated tube to correspond to 0.1 gramme of urea, differing, therefore, by 0.7 to 0.4 c.c. from Dr. Dupré's results. In Russell and West's burette they found 37.1 c.c. of moist nitrogen at ordinary temperature, to be equal to 0.1 grm. of urea.—*Journ. Chem. Soc.*, 1877, pp. 534, 538.

Hydrobromic Acid.

AL. NAUMANN has studied the behavior of bromine and sulphur bromide to sulphuretted hydrogen, and has found that the action of sulphuretted hydrogen on bromine dissolved in water is unlimited. This is one of the usually recommended methods for preparing hydrobromic as well as hydriodic acids; but in the latter case—that is, when sulphuretted hydrogen acts upon iodine—the action terminates as soon as the solution is saturated with the acid. In the case of hydrobromic acid, however, as soon as the solution is saturated, the acid escapes in the gaseous state. The aqueous solution formed at ordinary temperatures contained in a cubic centimetre:

1. After the first violent reaction	1.06 grms.	of HBr.
2. After the addition of more bromine, and passage of more gas, until the liquid became colorless.....	1.11	" "
3. After a further addition of bromine, and when again colorless.....	1.13	" "

In the last case, 1 cubic centimetre at 20° C. weighed 1.762 grms., and contained:

Water.....	0.58	grms.
Hydrobromic acid.....	1.13	" =64%
Sulphuric acid.....	0.052	"

The sulphur bromide, which always forms in this process, removed from No. 3, contained, when dry, 60 per cent. of bromine; after washing with water, and standing for several days over lime and sulphuric acid, 56 per cent. of bromine.

A continual stream of hydrobromic acid gas, and a concentrated solution of the same, may therefore easily be prepared by passing sulphuretted hydrogen into a solution of bromine in water, till the latter is saturated with the hydrobromic acid gas; on further addition of sulphuretted hydrogen, the former gas escapes and may be absorbed by water in a receiver. The sulphur bromide may be decomposed by hot water and the solution used again in the next operation to dissolve the bromine. The only drawback in the preparation of hydrobromic acid in this way is the formation of traces of sulphuric acid from the sulphur bromide.—*Ber. d. Deutsch. Chem. Ges.*, 9, 1574.

Hydrobromic Acid for Tinnitus Aurium.

DR. EDWARD WOAKES, aware of the effect of this acid in relieving the symptoms produced by quinia, has tried it in a number of cases of tinnitus aurium from other causes, and has had encouraging results. His paper on the subject is to be found in the *British Med. Journal* of June 23d. Two points, he says, demand attention to secure the success of the remedy, viz.: 1. The auditory apparatus must be clear of any well-marked morbid process; 2. The tinnitus should present the characters of congested blood-supply.

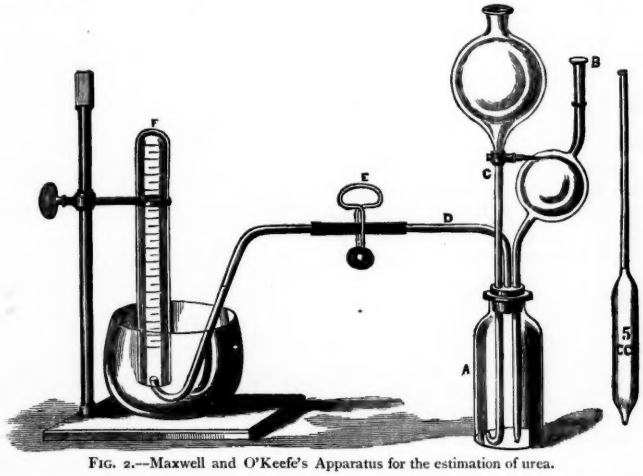


FIG. 2.—Maxwell and O'Keefe's Apparatus for the estimation of urea.

Pitury, an Australian Stimulant.

BARON MUELLER gives in an Australian journal an account of his recent examination of the leaves of the "pitury," said to be of great power as a stimulant, and to be found growing in desert scrubs from the Darling River and Barcooto to West Australia. It is his opinion that it is derived from *Duboisii Hopwoodii*, described by him in 1861, the leaves of which are chewed by natives of Central Australia to invigorate themselves during long foot-journeys. The blacks use it to excite their courage in warfare; a large dose infuriates them. The *Sidney Herald* is informed also that some dry leaves and stems, said to come from far beyond

the Barcoo country, and called "pitcherine," are used by the aborigines as we use tobacco, for both chewing and smoking; and it is stated also that a small quantity causes agreeable exhilaration, prolonged use resulting in intense excitement. It is observed that the blacks, after chewing the leaves, plaster the quid so formed behind the ears, believing that this increases its effect.—*British Med. Journal.*

Preparations of Crystallized Phosphorous Acid.

To prepare crystallized phosphorous acid, Grossheintz recommends the evaporation of phosphorus trichloride in a current of dry air at 60° C. (140° F.), and to conduct the gases into water cooled with ice. As soon as the latter has attained a certain degree of saturation, crystals of phosphorous acid begin to separate, which soon convert the liquid to a thick magma. The fluid portion is removed by means of a water air-pump (filter-pump), the crystals are washed with a small quantity of ice-cold water and dried in vacuo.—*Pharm. Zeit.*, 1877, No. 57, from *Compt. Rend.*

An Improved Gas-Burner.

For the purpose of better regulating the distance of the flame from the object to be heated, Mr. Robert Müncke has added an improvement to the well-known Bunsen's gas-burner, which consists of an elongation-tube movable up and down the burner with sufficient friction to remain at any given height. An ordinary burner of 160 mm. (6¼ inch.) height may thus be lengthened to 250 mm. (9⅞ inches). When requiring the use of the triangle for supporting chimneys, etc., in combustions, or incinerations, the sliding tube and triangle are in one piece. This contrivance does away with the inconvenient wooden supports or blocks, which it is often impossible to exactly adjust to the proper height.—*Ber. d. Deutsch. Chem. Ges.*, 10, 538.

Albuminate of Iron.

Dr. Choisnárd (*Gaz. des Hôp.*) again calls the attention of physicians to a remedy strongly recommended by Dr. Démarquay in chlorosis and anæmia, namely, albuminate of iron. According to his observations, this preparation is more readily absorbed than any other compound of iron. It was first proposed by Lassaigne under the name of albuminate of iron and potassium, and is prepared as follows: a solution of 100 parts of white of egg is precipitated by 36 parts of a solution of ferric tersulphate, spec. gr. 1036; to the mixture is added a solution of 2 parts of caustic potassa dissolved in 50 parts of water, whereby the precipitate previously formed is redissolved and an orange-yellow solution is obtained, which is made into a syrup by the addition of 1½ times its weight of sugar. The finished syrup contains 1% of anhydrous ferric oxide.

RECENT PAPERS.

Chemist and Druggist. Aug. 16.

Report of the Proceedings of the British Pharmaceutical Conference. The fourteenth annual meeting, held at Plymouth, August 14 and 15, 1877.

Dr. Wright, J. Williams, and F. B. Groves: "Report on the Extraction and Investigation of Aconitines." [Aconite from *A. Napellus* had been found to have the composition $C_{33}H_{43}NO_{12}$. By the action of hot water, alkalies, and some acids, this substance, first assimilating one molecule of water, can be split up into benzoic acid and another substance which has been named aconine ($C_{26}H_{39}NO_{11}$.) They therefore regarded aconitia as a benzoyl-aconine. Aconine itself was an inert substance, with a slightly bitter taste, but giving no tingling effect. Pseud-aconitia (the alkaloid from *A. ferox*) can be split up in a similar manner, but with materially different results, the products being what was called pseud-aconine and the substance called diamethylprotocatechuic acid.

It had also been found that *A. Napellus* and *A. ferox* yield both aconitia and pseud-aconitia, though in respectively varying proportions, which accounts for the fact also discovered by the committee that commercial aconitia always contained pseud-aconitia also.*]

Dr. Paul reported the results arrived at by Mr. Kingzett and himself after examination of some Japanese aconite. By the use of benzoline they had extracted from 8½ lbs. of the root a larger proportion of crystallizable substance than is usually assigned to aconite, viz., 13 to 14 grains to the pound.

Dr. Paul criticised the various analyses of aconite which had been published, and which he showed had considerable variations. His general conclusion was, that the so-called alkaloids were compounds of aconitic acid with various bases.

In the discussion following, Dr. Redwood spoke of the importance of the knowledge that the process of manufacture could split up a body of such deadly character into inert substances.

Mr. Holmes thought Japanese aconite was not *A. Napellus.*

Dr. Greenish had examined this variety microscopically, and had found it, like aconite from other sources, to be mixed. Variations in samples he considered to be owing, possibly, to different ages of the roots. He believed from its botanical character that Japanese aconite was not derived from *A. Napellus.*

Mr. Umney thought that Nepaul aconite was most powerful, but millmen complained of the irritation produced by the Japanese aconite.

Mr. Gerrard had also found that Japanese aconite yielded a much larger proportion of alkaloid. He also remarked its irritating effect, and said that, in using it, it was necessary to protect the face and hands.

Mr. Kingzett criticised the chemical formulæ given by Dr. Wright, and the latter, in reply, was of the opinion that the product mentioned in the report of Dr. Paul and Mr. Kingzett was the compound of aconitia and pseud-aconitia.

Dr. Wright also added that, in his opinion, the preparations of the root now used were not reliable, for the double reason that they were liable to depreciation, and that the roots themselves varied.

J. C. Thresh: "The Active Principle of Cayenne Pepper." [The author had examined 8½ lbs. of alcoholic extract of cayenne, the produce from 30 lbs. of fruit (ordinary chillies). By treatment with benzine, 2½ lbs. of fat were obtained. On treating this with hot petroleum, and setting aside the solution for some time, a quantity of an impure fatty acid was obtained, exhibiting the properties of palmitic acid. From the petroleum solution the capsaicin

* See abstract of paper by Dr. Wright, in New Rem. of May last, p. 132.

was removed by rectified spirits, but only from 3 to 4 drachms of the slightly impure principle was obtained. By crystallization from ether, large crystals of perfectly pure capsaicin were obtained.

Burnt with lead chromate, .356 gramme gave .9105 CO_2 and .2995 H_2O; .381 gramme gave .9745 CO_2 and .318 8_2O.

These results agree closely with the formula $C_8H_{14}O_2$ obtained by Dr. Buri from a sample of capsaicin prepared from Natal pepper.

The products of its oxidation by nitric acid were oxalic and succinic acids, an unexamined crystalline acid, and an oily substance.

The coloring matter of cayenne was also isolated by treating cayenne (which had previously been exhausted with alcohol) with benzine, and evaporating. A deep orange-red oily liquid is obtained, almost insoluble in alcohol, very soluble in chloroform, ether, amyl alcohol, benzine, carbon disulphide, fixed and volatile oils. It is also readily soluble in an alcoholic solution of castor oil or palmitic acid.]

MR. GERRARD said that, in accordance with a request from Mr. Thresh, he had asked Dr. Ringer to make therapeutical trials of the capsaicin, and he had administered some in doses of $\frac{1}{10}$ of a grain, but it had such a violent griping effect, accompanied with a purgative action, that its use as a remedy had been abandoned.

PROFESSOR REDWOOD said it was important to observe the difference between capsicin and capsaicin. Evidently the latter preparation was too powerful as a medicine, and except that it was desirable to know as much as possible about the proximate principles of substances employed in medicine, he did not exactly see that any practical good was likely to result from further inquiry into this alkaloid, which, it appeared, was somewhat costly to produce. He mentioned that the ordinary oleo-resin capsicin, with common salt, colored, if necessary, with annatto, was used by chemists in some parts of the country to produce the so-called soluble cayenne pepper.

MR. GERRARD, in reply to Mr. Groves, said that the capsaicin dissolved in glycerine and alcohol had been applied externally. It caused redness, but did not blister.

W. A. TILDEN: "Essential Oils with Special Reference to the Hydrocarbons contained in them." Mr. Tilden made a long report of an investigation into the characteristics of various terpenes, after a process devised by the author, which consists in passing nitrosyl chloride gas (NOCl) into the terpene, either pure or diluted with chloroform or alcohol, and cooled to $-10°$ C. A white crystalline body is deposited, which is found to be a compound of one molecule of terpene and one molecule of nitrosyl chloride. Its formula is therefore always $C_{10}H_{16}NOCl$, and it is to be observed that this result only occurs with terpenes of the formula $C_{10}H_{16}$. The polymeric hydrocarbons do not yield the reaction.

From the compound named, HCl is removed and nitroso compounds are left, having special characters and crystalline forms, which serve to distinguish the terpenes from each other. French and American turpentines yielded nitroso-derivatives which agree in solubility and melting-point, but the crystals of which are readily distinguishable. The terpenes of juniper and sage oils yield compounds similar to that from French turpentine, and the author regards these terpenes as allotropic.

Experiments with oil of savin convince the author that this oil has not, as has generally been said, the same composition as oil of turpentine; its terpene has not the same formula. By repeated fractional distillation of the oil a liquid was obtained—not more than 5 per cent. of the whole—which turned out to be not a terpene, but to contain oxygen, and to be isomeric with ordinary camphor. Lavender oil, too, the author concludes to be a mixture of liquid camphors. The terpenes of oil of caraway, sweet orange-peel, bergamot, and lemon, Dr. Tilden believes to be identical; but the last-named he found a more complicated oil than the others. Whether it is so naturally, or whether his sample was adulterated, was not quite clear. It is often said that essence of lemon becomes converted into oil of turpentine after standing. Dr. Tilden would like to receive samples and details of any reliable instance of such conversion.

MR. UMNEY said he thought some of the physical properties of certain oils were likely to vary according to the sources from which they were derived. Oil of caraway, for instance, was prepared indiscriminately from Dutch and Mogador caraways.

MR. GROVES said it would be very useful if some one could tell how to prevent the change in flavor which was noticeable in some oils on keeping.

DR. WRIGHT said he knew that some perfumers adopted the plan of keeping their oils in tightly stoppered bottles, and filling up with water as any of the oil was removed.

MR. SCHACHT thought it was a curious fact, seeing that Mr. Tilden had noted that the aromatic principle itself contained oxygen, that a further oxidation should spoil the aroma.

MR. ATKINS said he had kept different portions of the same sample, the one in his cellar, the other on the shelf of the shop, in similar stoppered bottles, and had found the latter spoil, while the former remained perfectly sweet. This he had tried with the oils of rosemary and lemon. He believed the action of gas was very injurious to essential oils.]

M. M. PATTISON MUIR: "On Essential Oil of Sage." [The writer presented the second part of a paper (see p. 560, *Year Book of Pharmacy* for 1876) detailing the properties of the two terpenes obtained from sage oil. The lower boiling terpene was almost certainly identical with the terpene obtained from French turpentine oil. The terpene of higher boiling-point most probably contained traces of a hydrocarbon belonging to the $C_{15}H_{24}$ group. Both terpenes contained small quantities of cymene; when freed from this body neither yielded terephthalic acid on oxidation. Analyses and vapor density determinations of the oxidized liquid constituent of sage oil (salviol) led to the formula $C_{16}H_{16}O$ as expressing the composition and molecular weight of this substance. Sage camphor is also shown to have the same formula, but is isomeric, not identical with ordinary camphor.]

ROBERT H. DAVIES: "The Constituents of Ivy Berries —Hederic Acid." [This paper stated that so-called "hederic acid," having been obtained in a pure condition, was submitted to ultimate analysis, and as the result of five analyses, Mr. Davies deduced the formula $C_{16}H_{26}O_4$.

Hederic acid did not seem to produce salts; in fact, it was not an acid at all, though this name had better be retained, Mr. Davies thought, until some further information regarding its constitution was obtained.

A nitro substitution product has been obtained which has the formula $C_{16}H_{25}(NO_2)O_4$.

A lead compound and a bromo substitution product had also been formed, but were not yet analyzed.

The destructive distillation of this hederic acid gave rise to fatty substances, which distilled over, and an inflammable gas, which escaped. Results, chemically interesting, were expected from an examination of these fatty substances.]

JOHN ELIOT HOWARD: "On the Supply of Cinchona Bark as connected with the Present Price of Quinia." [This paper attracted great attention, and elicited an extended discussion. The author dwelt upon the present high price of quinia, and discussed the causes which have led to it. It appears that the war, which has told with lamentable effect on the Colombian districts of South America, has entirely deranged the collection of bark in those quarters which have usually yielded to the quinia manufacturers the bulk of their raw material. Hence had arisen a dearth in the supply which would have amounted to an actual famine but for the imports from the cinchona plantations of India. The planters have consequently realized large sums of money, the Ootacamund plantation alone yielding the Indian Government as much as 35,000*l*. This state of prosperity Mr. Howard believes to be of a transient nature, except in those cases where scientific knowledge was combined with practical skill in cultivation. The leading species of cinchona improve by cultivation, but the inferior sorts will scarcely pay for planting and care when the reaction

from present high prices had fully set in, as it certainly would, according to Mr. Howard's view, at a more or less distant future.

As regards the medical value and probable price of the (so-called) inferior alkaloids, Mr. Howard thought that cinchonidia, from its very abundant production in nature, and especially in the now much cultivated *C. succirubra*, was likely to remain at a low price compared with quinia. Both this alkaloid and quinidia would probably be found in many cases superior even to quinia. Cinchonia, Mr. Howard considered, would never be so valuable as either of these, and the other (mostly non-crystallizable) alkaloids were of even less worth. One of the latter he suspected of emetic properties. He thought that all these questions should be settled by competent authority.

In the prolonged discussion which followed, the majority of the members who participated expressed their belief that other alkaloids of cinchona besides quinia were worthy of more extensive employment than they have yet had. It was urged that the members should use their influence to promote the adoption of cinchonidia, against which action Mr. Schacht protested. He thought that it best became pharmacists always to recommend the best thing; and although, perhaps, these alkaloids had been too much disparaged, there was a concurrence of evidence to the effect that quinia was the best of all, and he thought no physician, for the sake of saving the fraction of a penny per dose, should give a medicine at all inferior.]

MR. W. W. STODDART: "Notes on an Impurity of Oxide of Zinc." [The author had analyzed a sample of oxide of zinc which had been bought for mixing with white lead as a paint, but had been found to be nearly useless. The sample answered well to all the pharmacopœial tests for pure oxide of zinc, and yet was impure to the extent of nearly 10 per cent. An analysis showed the following composition:

	Parts.
Oxide of zinc	90.87
Sulphite of zinc	9.13
Sulphate of zinc, a very slight trace.	
Total	100.00

The trace of sulphate was so small that it was probably due to the oxidation of the sulphite. The cause of the presence of sulphite of zinc was not quite apparent, but the sample came from a continental house, and was very likely manufactured from the sulphide of zinc in some rapid and imperfect manner, which had partially oxidized some of the sulphide and produced an impure product.]

B. S. PROCTOR: "Supplementary Note on the Assay of Opium." [Mr. Proctor recommended the process described at the last meeting (NEW REM., v., p. 303), and spoke of a modification by which percolation of spirit through opium was expedited. The treatment of intractable samples was next considered, and the conclusion arrived at that the process already proposed, with the addition of a second solution of the morphia in spirit and acid, and precipitation by ammonia, was better than any other modification which had been tried.

To Mr. Cleaver's objection made last year to Mr. Proctor's mode of analysis, that 1 part in 1,000 of morphia was carried off in the washing-water, Mr. Proctor now brought evidence to show that the latter contained only 1 part of morphia in 7,000.]

MR. CHARLES SYMES: "Sugar in Pharmacy." [See page 261.]

A. W. GERRARD: "The Proximate Principles of the *Narcissus Pseudo-Narcissus*." [The natural order Amaryllidaceæ, to which the plant forming the subject of the author's notice belongs, has a reputation for producing many plants of a poisonous character.

The popular name of the plant examined in the present instance was the daffodil. At the time the investigation was undertaken, bulbs only were obtainable, and to these Mr. Gerrard's observations were confined. By preparing an alcoholic extract and removing from it some oil and resinous matters with ether, then treating the extract with caustic potash and ether, a residue was obtained, partly crystalline and of alkaline reaction. The crystals, which were very difficult to separate, proved not to be an alkaloid, but, so far as their examination was carried, are believed to be a neutral principle; the viscous matter, however, in which the crystals were imbedded, proved to be an alkaloid of well-marked reactions, which the author has provisionally termed pseudo-narcissine. The whole of the alkaloid obtained was converted into a nitrate, and required at once for Ringer's experiments; so that no attempts were made to prepare from it crystalline salts of the various acids. A few drops of the pseudo-narcissine nitrate, placed on a watch-glass, yielded in about a week some indifferent granular-looking crystals.

From the exhausted parent-extract was obtained, by exclusion of other matters with alcohol, an ultimate residue of a saccharine character.

Professor Ringer's experiments show that, administered hypodermically to warm-blooded animals, it causes profuse salivation, with running at the eyes and nose, also free vomiting and slight diarrhœa. On man, administered by the mouth, it acts as on animals, producing salivation, occasionally tears, sickness, and diarrhœa; dropped into the eye, it first slightly contracts, and then dilates the pupil. These remarks apply to the alkaloid only; the extract in some respects is far more powerful; hence, it is probable that the salivating principle, which is the alkaloid, and the principles which produce sickness and diarrhœa, and are contained in the extract, are totally distinct. These latter points will, if possible, be determined].

MARTIN: "Diphenylamine as a Test for Nitric and Nitrous Acids." [In a short paper Mr. N. H. Martin drew attention to the value of diphenylamine as a test for nitric and nitrous acids. A small quantity of the chemical the size of a mustard seed, was put in a test-tube, a little sulphuric acid (about 1 drachm) poured over it, and a few drops of water added to it to develop heat. A single drop of a solution containing 1 drop of nitric acid in a pint of water was added to the test-liquid, and instantly a distinct blue color was developed.]

MR. J. C. THRESH: "The Pill Masses of the B. P. which are of an Inconvenient Consistence, or Acquire that Condition by Keeping." [The writer said there were seven B. P. pill masses which required some modification in their formulæ, as they either had, or acquired, a consistence unsuitable for dispensing.

Pil. aloes et assaf. should have the amount of soap increased to 1½ ozs., and the conserve decreased to ½ oz., when a good mass was formed.

Pil. phosph., though in some respects objectionable, was perhaps as good a form as any yet proposed.

Pil. aloes et ferri could be made into a good keeping consistency by making up with powdered tragacanth and glycerine. The same remark also applied to pil. ferri carb.

The pil. coloc. co., pil. aloes et myrrhæ, and pil. cambogiæ co., were best made up with Proctor's excipient (a mucilage of tragacanth, made with glycerine and water). He exhibited a number of samples of pill masses which had been made with the tragacanth excipients, and all were in excellent condition.

Experiments made with various kinds of aperient pills made up with tragacanth and glycerine, and other excipients, showed that the former were equal in activity to the latter].

LOUIS SIEBOLD: "On Copaiba Testing." [See p. 265].

W. W. URWICK: "A New Medicinal Solution of Phosphorus." [See p. 263].

Pharmaceutical Journal and Transactions. Nos. 371–373.

D. B. DOTT: "Adulterated Sulphate of Morphia." [Reporting to have found in the English market a sulphate of morphia containing 34.63 per cent. of sodium sulphate; the percentage of morphia sulphate—65.37 per cent.—was confirmed by a direct determination.]

W. DYMOCK: "Notes on Indian Drugs." [*Ocymum pilosum*, local, Tukm i Rihan. The seeds are mucilaginous and slightly stimulant.—*Plantago Psyllium*, local, Bartung. The seeds, commonly called barhang, are in great

repute as a remedy in dysentery.—*Centaurea Behen*, local, Suffed Behman. The root is considered nutritive and aphrodisiac.—*Sphæranthus mollis*, local, Moondi. The tops of the plant have a terebinthinate odor; the whole plant is much used as an alterative and purifier of the blood.—*Balsamodendron Opobalsamum*, local name of fruit, Hab ul Balesan. Considered powerfully carminative and digestive.—*Peganum Harmala*, local, Hurmaro and Hurmal. The seeds are emmenagogue, and produce a slight intoxication, like Cannabis Indica.]

Canadian Pharmaceutical Journal.

August. E. B. SHUTTLEWORTH: "Some Experiments on the Physiological Effects of Coca." [Confirming the observations of others as to the invigorating effects of the drug. Doses of 1–1½ drachms chewed in small portions, during any fatiguing work, appear to keep up the muscular vigor in a remarkable manner.].

American Journal of Pharmacy.

August. CHAS. A. BOWMAN: "Examination of Commercial Copaiba." [The author gives a table of the results of his examination of purposely adulterated balsam of copaiba. He failed to find any one reliable test for its purity, but arrives at the conclusion that petroleum benzine will detect the presence of Venice turpentine, and not only the presence, but also very nearly the percentage of castor oil. See also page 265].

CH. C. DRUEDING: "Analysis of Cotton-Root Bark." [Results: Organic constituents—a red and a yellow resinous coloring matter, fixed oil, gum, sugar, tannin, and chlorophyll. Inorganic constituents—potassium, sodium, calcium, magnesium, iron, sulphuric and phosphoric acids.]

FR. V. GREENE: "On the Tannic Acid of Guarana." [The author finds that the tannin of *Paullinia sorbilis* differs in its behavior somewhat from other tannins, and he therefore proposes to call it paullinitannic acid.]

FRED. B. POWER: "Note upon a Reaction of Emetia." [A solution of chlorinated lime produces with emetia a bright orange or lemon-yellow coloration; a trace of the alkaloid upon a porcelain plate touched with the solution, and especially when followed by a trace of a weak acid to liberate hypochlorous acid, is at once colored. Chlorine alone is without action on it.]

FR. V. GREENE: "Fluid Extract of Jaborandi." [Moisten 16 Troy ounces of jaborandi leaves, in moderately fine powder, thoroughly with alcohol of 50 per cent., pack in a conical glass percolator, place a layer of well-washed sand on top of the cloth covering the material, add more of the menstruum until the liquid begins to drop from the percolator, when the lower orifice is to be closed with a cork, and the percolator, securely covered, is to be set aside for four days. Then remove the cork, and gradually add more menstruum, until the material is exhausted. Reserve the first 14 fl. oz., and evaporate the remainder on a water-bath, under stirring, to 2 fl. oz., which are to be added to the reserved portion.]

J. G. SMITH: "Corrosive Sublimate contaminated with Arsenic." [This impurity probably originates from the sulphuric acid used in preparing mercuric sulphate as a preliminary step. Five samples yielded 0.0537, 0.048, 0.032, 0.083, 0.0901 per cent of arsenic acid.]

Liebig's Annalen der Chemie. 187, 2, 3.

C. STAHLSCHMIDT: "On Polyporic Acid." [The author has discovered in a fungus, closely allied to *Polyporus purpurascens*, but as yet undetermined, a new acid, which he suspects to be present also in other fungi. It forms purple salts with alkalies, which are soluble in water; in a free state, it is absolutely insoluble in water. Dry fungi contain about 43% of the pure acid.]

TH. SALZER: "On Hypophosphorous Acid." [The sour syrup, which is produced by allowing pieces of phosphorus, partly immersed in water, to deliquesce in the air, contains phosphorous, phosphoric, and hypophosphorous acids. By adding sodium carbonate or acetate, a very difficultly soluble sodium hypophosphite is formed, which may be easily separated from the other salts. The pure acid is best prepared by first preparing lead hypophosphite (by double decomposition between lead acetate and sodium hypophosphite), and then to decompose the lead salt, suspended in water, by sulphuretted hydrogen. The excess of the latter is removed by heating, and the resulting acid is colorless and odorless. It is permanent in the air, but, if desired in a syrupy condition, must be concentrated at a temperature not exceeding 30° C.; otherwise it splits up into phosphorous and phosphoric acids.]

Gazette Hebdomadaire. Nos. 24–29.

E. RABINET: "Test for Salicylic Acid in Wine or in the Urine." [Take 100 c.c. of wine, precipitate with an excess of acetate of lead, filter, then add an excess of sulphuric acid, which will precipitate the lead, filter again. To the resulting liquid, which will be perfectly clear, add two or three drops of a solution of perchloride of iron, and if there is the least trace of salicylic acid in the wine, a beautiful violet color will be produced. By this method the presence of two or three milligrammes of acid per litre can be ascertained. For the urine this test is even more sensitive.]

CH. MONEL: "Tetrachloride of Carbon as an Anæsthetic." [Struck with the similarity of the formula of tetrachloride of carbon ($C Cl_4$) to that of chloroform ($C H Cl_3$), the author prepared a specimen of it chemically pure and experimented with it as an anæsthetic. The following are his conclusions with regard to it:

"Pure tetrachloride of carbon is a perfect anæsthetic, more powerful than chloroform, but its action can be perfectly regulated. Like chloroform, it momentarily arrests general sensibility and power of motion.

"Numerous experiments have enabled me to follow the three stages of anæsthesia: 1st. The period of excitement. 2d. The period of insensibility. 3d. The period of collapse.

"In the two latter periods its effects are identical with those of chloroform; in the first period the excitement is greater, and more resembles the first stage of anæsthesia produced by ether."]

H. CHOUPPE: "Experimental Researches with reference to Copper as a Poison." [The author concludes, as the result of many experiments, that copper, when administered by the stomach, does not act as a poison, for the reason that, owing to the disagreeable taste which it imparts to the food, and the vomiting which it causes, it is impossible to give it for a long enough time, or in doses sufficiently large.]

M. PORTES: "Investigations regarding Bitter Almonds." [The author states as the result of his experiments, that young bitter almonds contain amygdalin, but their composition is always different from that of sweet almonds. Emulsin is found only in the embryo, which always appears late. Amygdalin first appears in the integument of the seed, but little by little it leaves the integument and penetrates the cotyledon by the radicle.]

Répertoire de Pharmacie. Nos. 14–15.

J. B. GILLE: "On the Preparation of the Yellow Oxide of Mercury." [The author finds that the usual method of precipitating mercuric chloride, with solution of soda or potassa, generally contaminates the product with mercuric carbonate, because the above two caustic alkalies are hardly ever free from carbonates when in solution. The mercuric carbonate might, however, be removed by heating. A better plan, according to the author, is to precipitate by perfectly clear lime-water, decanting and filtering immediately (to prevent formation of calcium carbonate in the supernatant liquid, which should contain an excess of lime-water). Prepared by lime, it has a paler yellow color than if prepared by soda or potassa.]

P. GUYOT: "On the Separation of Nicotia by Dialysis." [The author illustrates the process of dialysis by an example. He places some tobacco-juice from a pipe into a small dialyzer, and floats the latter on water. After the lapse of an hour, the latter contains the whole of the nicotia contained in the juice. Various other mixtures containing tobacco, and organic tissues containing nicotia, yielded the alkaloid to the same treatment.]

YVON: "Syphon Regulator for Continuous Filtration." (See page 264.)

ORIGINAL COMMUNICATIONS.

CORRECTED CORRECTION.

To the Editors of New Remedies.

Gentlemen:—Referring to the correction on p. 213 in the July number of New Remedies, in which the statement is made that Jacob Dunton & Co. have alone the right to manufacture the pill-press figured on p. 171 of your June number, I deem it right to say that my paper in which a simple pill-press was figured was read before the American Pharmaceutical Association in September, 1875, and was dated August 17, 1875.*

An improved form of the same press was described and illustrated by the writer in the March number of the *American Journal of Pharmacy*, 1876, p. 97, and bears date of February 8, 1876.

The application for Jacob Dunton's patent was filed February 18, 1876, and the patent was issued March 14, 1876, which was over six months after my first description of a pill-press appeared.

My paper on the improved press, dated February 8, 1876, which antedates J. Dunton's application, expressly states that no patent has been procured for it, no one has the exclusive right to manufacture, and any who care to are at liberty to use it, have one made by their own mechanic, or buy of either of the makers in this city.

In conclusion, I would say that the pill-press may be procured of H. C. Blair's Sons, A. H. Wirz, I. H. Gemrig, Lentz, etc., etc., of Philadelphia, and that the sale is not limited to any one firm.

Very respectfully,

Joseph P. Remington.

Philadelphia, August 9, 1877.

ETHEREAL EXTRACT OF PUMPKIN-SEED.

To the Editor of New Remedies.

Dear Sir:—I send you herewith a little parcel containing an ethereal extract of the epiderm of pumpkin-seed, on which you had an article in your last number. It was prepared for administration in the case of a little girl, æt. 5, where kousso having failed, the parents insisted on pumpkin-seed, of which ½ of one pound about were used to produce the desired effect. For preparing it, the woody, fibrous testa was removed and the green epiderm carefully scraped from the seed. On experiment it was found that ether was the best solvent, and the consequent evaporation was not carried too far, so as to avoid the decomposition which such resinous substances are so readily liable to undergo. The preparation of this extract was further prompted by the experience acquired in preparing extracts of bark of pomegranate root and of kameela on former occasions.

The chief desideratum for all of these appears to be the utmost possible care in preparing them.

For making an extract, the pieces of bark of pomegranate root should be very carefully selected, and only such used as show on the plane of breakage (Bruchfläche) a decided green color. For extracting, dilute alcohol, as given in some text-books, appears to answer well.

For extracting kameela, a mixture of alcohol, 3 parts, and ether, 1 part, seems to answer best; the extract may be made perfectly dry.

Only one of the physicians who used these is residing here. He has had but one case, but as I have six cases on record, I may state that pills composed of Fl. Ext. Granati rad. cort. ℥ ss., Extr. Kameelæ ʒ j.–ʒ jss.† seem to answer well. One case of the six failed, and on repetition of the dose, ℈ij. of extract of male-fern were added to the above with success.

The accompanying extract is the product from the epiderm of one pound of commercial pumpkin-seed. It seems that we, over here, may have to wait a good while to test it, and your extended connections may give you an earlier occasion.

Very truly yours,

C. Am Ende.

Hoboken, N. J., August 23, 1877.

* See Proceedings Am. Pharm. Assoc., 1875.

† Extr. Kameela varies according to constitution, etc., as its action is quite drastic.

ON DIALYSED IRON.

Although we have already published several formulæ for preparing dialysed iron, and have given a general account of its properties, we deem it nevertheless proper to make some further remarks on its composition and uses, particularly as we have permitted ourselves to print,* on the authority of Lebaigne and others, a statement respecting it which is not satisfactorily proven, and might be the cause of disappointments. Most of the circulars and notices of dialysed iron, namely, claim that "it may be used as an antidote for arsenic, as a substitute for the hydrated ferric oxide, its recommendations being the fact that it requires no further preparation, and is conveniently of administration." *It remains, however, to be clearly demonstrated whether dialysed iron is an effective antidote for arsenic; and before this fact is clearly proven, it should not be relied upon as such.* We think this subject of sufficient importance to be at once thoroughly investigated.

Ferric oxide, or sesquioxide of iron has the composition of Fe_2O_3, when anhydrous. In this condition it is soluble in acids only with great difficulty. There exist, however, quite a number of hydrates of this oxide, differing from each other only in the amount of water which they contain. Many of these hydrates are found in nature, as Limonite ($2Fe_2O_3,H_2O$), Turgite ($2Fe_2O_3,H_2O$), Xanthosiderite ($Fe_2O_3,2H_2O$), Goethite (Fe_2O_3,H_2O), etc. Iron-rust is likewise a hydrated ferric-oxide, of the composition $Fe_2O_3 + Fe_2(HO)_6$, and always contains small quantities of ammonia.

The normal hydrated oxide ($Fe_2O_3,3H_2O$, or $Fe_2(HO)_6$) is produced by decomposing a dilute solution of ferric chloride or sulphate with ammonia, forming a light-brown voluminous precipitate, which is easily soluble, while still fresh, in dilute acids. Long-keeping, even under water, causes it to become crystalline and less readily soluble. Addition of glycerine, however, almost entirely prevents this change, and pulpy hydrated oxide of iron may be kept soluble almost indefinitely by means of this agent. If a large excess of ammonia had been used to precipitate it, it retains a portion of the ammonia even after washing with boiling water. On the other hand, if an insufficient quantity of ammonia was employed, the precipitate is in reality not hydrated ferric oxide, but rather a basic form of the employed salt. For instance, the precipitate produced in ferric sulphate by an insufficient amount of ammonia contains considerable quantities of sulphuric acid. Concentrated solutions of ferric acid salts, when precipitated by ammonia, yield hydrates which contain less water than the normal oxide.

Under certain conditions the hydrated ferric oxide may be obtained in a soluble form. But this is in reality not the pure oxide, but a compound of it with a very small quantity of acid, that is, a basic salt. In other words, under certain conditions a small quantity of a neutral ferric salt (as chloride or sulphate) is capable of dissolving or retaining in solution a large quantity of ferric hydrate. Two such varieties of soluble ferric hydrate are known. One is the so-called *colloid hydrate*, and the other the soluble *metahydrate*. The former is obtained in the known manner by dialysing a solution of *ferric chloride* or *acetate*. The liquid finally remaining in the dialyser contains in the first case 98.5 per cent. ferric hydrate and 1.5 per cent. hydrochloric acid; and in the second case 94 per cent. ferric hydrate and 6 per cent. acetic acid. Both coagulate on addition of sulphuric acid, neutral salts, or alkalies, to a mass resembling a clot of blood, having the same properties as to solubility, etc., as the normal ferric hydrate. The soluble *metahydrate* is produced by heating, in a closed tube, a solu-

* June Number, pg. 182, 2d col., lines 9–13.

tion of ferric acetate to 100° C., or by boiling a very dilute solution of ferric chloride. In the case of the acetate the color changes from blood-red to brick-red, and the liquid is clear by transmitted light, but remarkably opalescent by reflected light. The precipitate which is produced in this latter solution by sulphuric acid, neutral salts or alkalies, is *insoluble* in concentrated acids, but easily *soluble* in water. On porous plates it dries to a shining varnish, the watery solution of which gives no iron reaction with potassium ferrocyanide. The different solubility in acids of the separated hydrates, and the behavior of the original solutions towards small quantities of ammonium chloride, whereby the colloid iron is immediately thrown down, while the metahydrate solution remains clear, distinguishes the two varieties of soluble ferric oxide.

The statement which we have repeatedly seen lately, that dialysed iron is *entirely* freed from acid, is therefore erroneous. The hydrochloric acid, or chlorine, although not susceptible of being directly precipitated, is still present. It is only necessary to boil the dialysed iron with dilute nitric acid, to precipitate with sodium carbonate, and to add to the filtrate, acidified with a few drops of nitric acid, solution of silver nitrate, when the characteristic precipitate of silver chloride will make its appearance.

ON THE SULPHATES OF QUINIDIA AND CINCHONIDIA.

THE high price of quinia sulphate has induced many physicians to pay more attention to the therapeutical value of the other cheaper alkaloids of cinchona, and in consequence thereof the consumption of the latter has within the past year considerably increased. Among these alkaloids quinidia has been assigned the highest rank as to effectiveness, cinchonidia being but little inferior. There is, however, a good deal of confusion in the nomenclature of the cinchona alkaloids, especially among manufacturers, and particularly with respect to the alkaloids quinidia and cinchonidia. To clear up this doubt, and to draw the attention of pharmacists and physicians again to this matter, we here insert an account given by Mr. Bouchardat in *L'Union Pharm.* 1877, 69.

Cinchonidia was discovered by Winckler in 1848;* its sulphate had been long known and designated as "sulphate of quinidia" by A. Delondre (who, together with O. Henri, discovered in 1833 the true alkaloid quinidia;† by F. Boudet and Bouchardat (who noticed its peculiar rotatory power);‡ and by German manufacturers of cinchona alkaloids. Pasteur§ demonstrated its isomerism with cinchonia and dispelled all uncertainty in regard to it.

The rotatory power of cinchonidia has since then been rigorously determined by Oudemans, and by G. Bouchardat (fils), upon the pure alkaloids, both of whom obtained exactly the same results.

Commercial sulphate of cinchonidia is often mixed with a small quantity of sulphate of quinidia, from which it has not been entirely separated in the course of manufacture.

Sulphate of *quinidia* is a much scarcer article in trade than the cinchonidia salt. It was extracted by Delondre and O. Henri from the yellowish solution remaining after the separation of quinia and cinchonia from Calisaya bark, which latter has, however, long ceased to be the principal source of this alkaloid.

Van Heijningen obtained it from the complex substance known as chinoidine, and gave to it the name of β quinine.**

Winckler extracted cinchonidia from a bark, which he found to have great resemblance to Huamali bark, as well as from Maracaïbo bark.

The same base exists also, in considerable quantities, in the barks which are gathered to the north of Bogotá, at Velez, Socorro, Pamplona, and Ocania. It is probable that these, or allied species, are identical with some of those now cultivated in Java or India.

According to de Vrij, the best source for the preparation of cinchonidia is the bark of *Cinchona succirubra*, cultivated in British India and upon Java. This bark is very rich in alkaloids, containing from 5 to 10 per cent., which corresponds to 25 to 50 grammes per pound; and among these cinchonidia is predominant. Mr. de Vrij has lately analyzed a red bark, containing as much as 10.27 per cent. of mixed alkaloids, among which 6.47 was cinchonidia.

In addition to this, a New Granada bark must be mentioned here, which is very rich in cinchonidia. Mr. E. Rampon states "that this bark has the same texture as *C. cordifolia*, but its external surface when stripped presents a rose, or a more or less red tint, very characteristic to a practised eye. This is the bark which Delondre and Bouchardat have figured and described in their quinology, under one of its forms as 'Rose-colored Carthagena Bark,' and under its other form as 'Red Mutis Bark.' Indeed, the larger pieces resemble those of red cinchona, but its texture and chemical composition is entirely different. This bark, against which much has been written in Germany, and the chief alkaloid of which was rejected, has later come into great favor. Indeed, cinchonidia is equally as effective as quinia. It has been much used abroad."

Bouchardat has employed cinchonidia as an antipyretic since 1856; and Grisolle has likewise used it under its improper name, "*quinidia sulphate.*"

There is no further argument necessary to convince physicians of the equal therapeutical value of quinia and cinchonidia. The latter besides possesses the advantage that it is much cheaper than the former.

But it must be remembered that a good deal of cinchonidia sulphate is sold under the improper name of quinidia sulphate; and there are generally two grades of the latter quoted in price-lists: one as "quinidia sulphate I.," which is said to be tolerably pure: the other as "quinidia sulphate II.," which consists almost entirely of cinchonidia sulphate. In purchasing quinidia sulphate, therefore, it should be carefully examined, and, if it contain more than 3 per cent. of cinchonidia, it should be rejected. This amount of impurity is admissible for the sole reason that a further separation of the two bases so enhances the price of the product as to place it among the dear alkaloids.

It should, however, be added, that these distinctions between several grades of quinidia refer exclusively to that manufactured in Europe. So far as our knowledge and information goes, the American product is pure, and, we believe, may be used with confidence.

* *Répert de Pharm.*, 48, 394. † *Jour. de Pharm.*, 19, 623.
‡ *Jour. de Pharm.*, 23, 288. § *Comptes Rend.*, 36, 26, 37, 110.
** *Ann. d. Chem. u. Pharm.*, 72, 301.

CONTRIBUTIONS FROM THE SCHOOL OF PHARMACY, UNIVERSITY OF MICHIGAN.

2. Analysis of Ten Samples of Baking Powder.

BY W. L. LONG, PH.C.

BAKING powders, as found in commerce, consist principally of potassium bitartrate and sodium bicarbonate, with more or less flour or starch. Many also contain alum—an unnecessary and harmful impurity.

A small amount of flour or starch (about 6 per cent.) is beneficial, as it prevents the mixture of potassium bitartrate and sodium bicarbonate from becoming moist, as it often does when no starch is present.

The starch was detected by iodine, and examined with the microscope to determine what kind. Sometimes it was present as wheat flour, sometimes as corn starch, and in one case a mixture of potato and corn starches. The starch was converted into glucose by boiling with dilute mineral acid. The glucose was then estimated by standard solution of potassic cupric tartrate, and from the amount of glucose found the amount of starch was calculated.*

Wheat flour, when present, was calculated from the amount of starch found. According to Hassall,† seventy per cent. of wheat flour is starch. As only traces of calcium sulphate were present in any of the samples, all the sulphuric acid found was calculated as alum.

* "*Prescott's Proximate Organic Analysis*," p. 171.
† "*Hassall's Foods and Adulterations.*"

Potassium bitartrate was estimated from the amount of tartaric acid found; and sodium bicarbonate, by difference.

Of the ten samples examined, three gave a slightly acid reaction when dissolved in water, six were neutral, and one strongly alkaline.

No.	Flour or Starch.	Alum.	Potassium Bitartrate.	Sodium Bicarb.
1	6.		52.	40.
2	9.	2.4	25.	40.
3	14.		48.	37.
4	7.		52.	40.
5	6.		52.	40.
6	5.	10.	41.	40.
7	8.	7.	45.	40.
8	11.	3	45.	36.
9	23.		24.	52.
10	4.	40.	4.	48.

3. Analysis of Twelve Samples of Cream Tartar.

BY CLARENCE G. STONE, PH.C.

Out of twelve samples analyzed, only two were found which contained no calcium tartrate, and these were heavily adulterated with calcium sulphate and potassium sulphate. Nine contained more calcium tartrate than the amount allowed by the U. S. Pharmacopœia (5 per cent.), and only one less. None of these samples contained alum or flour. The cream tartar sold by druggists was found to be much better than that obtained from grocers.

The impurities were estimated quantitatively, and the potassium bitartrate calculated by difference. The following is a tabular statement:

No.	Calcium Tartrate.	Calcium Sulphate.	Potassium Sulphate.	Potassium Bitartrate.
1	3.6			96.4
2	6.			94.
3	6.3			93.7
4	7.6			92.4
5	6.1			93.9
6	6.6			93.4
7		64.3	3.3	32.
8		61.6	16.7	21.7
9	8.			92.
10	5.4			94.6
11	6.9			93.1
12	6.			94.

AMERICAN PHARMACEUTICAL ASSOCIATION.

The Twenty-fifth Annual Session of the Association assembled at Toronto, on September 4, 1877, in the rooms of the City Council, at the City Hall.

The meeting was called to order by the President, Mr. Chas. Bullock, of Philadelphia, at 3.35 P.M.

Delegates.

Credentials of the various delegations being called for, the following were handed in, and referred to a committee consisting of Messrs. R. S. Woodruff, A. B. Petrie, and E. T. Dobbins, who, after a short delay, reported the following as entitled to seats in the convention:

Colleges of Pharmacy:

Ontario: Wm. Elliott, N. C. Love, Hugh Miller, G. J. Waugh, G. Hodgetts.

Massachusetts: Chas. P. Orne, W. S. Folger, G. F. H. Markoe, A. Boyden, F. Bailey.

Louisville: C. L. Diehl, E. C. Pfingst, E. Sheffer, W. W. Smith, V. Davis.

New York: Ch. Rice, F. Hoffmann, H. J. Menninger, M. L. M. Peixotto, A. Tscheppe.

National: R. B. Ferguson, W. S. Thompson, O. Oldberg, A. M. Read, J. A. Milburn.

Maryland: L. Dohme, J. F. Hancock, J. Roberts, F. Hassencamp, E. Eareckson.

Philadelphia: W. H. Pile, A. W. Miller, G. W. Kennedy, W. McIntyre, Ch. L. Eberle.

Pharmaceutical Associations:

Connecticut: A. F. Wood, A. J. Munson, R. S. Woodruff, J. K. Williams, R. Wells.

New Jersey: E. P. Nichols, A. S. White, W. H. Sayre, R. W. Gardner, R. J. Shaw.

Richmond: T. R. Baker, J. B. Purcell, H. Blair, J. Anthony, B. C. Davis.

Georgia: J. Ingalls, H. P. Tarrant, A. A. Menard.

Newark: E. P. Nichols, R. W. Vandervoort, Ch. Holzhauer, W. H. Stamford, P. J. Garrigan.

New Hampshire: Ch. A. Tufts, C. F. P. Hildreth, E. S. Russell, B. F. Rackley, H. B. Foster.

Kings Co., New York: E. A. Sayre, G. A. Newman, J. O. Barnaby, Ch. Althaus, F. C. Cutts.

Rhode Island: A. P. Brown, A. L. Calder.

German Apothecaries of New York: Ch. Eimer, A. Tscheppe, P. Balluff, F. A. Reichardt, H. J. Menninger.

Alumni Associations of the following Colleges:

Massachusetts: S. A. D. Sheppard, Ch. A. Tufts, T. Doliver, C. P. Orne, W. W. Bartlett.

Philadelphia: L. Shaw, Ch. A. Weideman, E. C. Jones, Ch. L. Eberle, R. V. Mattison.

Philadelphia (New York Branch): H. S. Wellcome, J. Messing, Jr.

New York: P. W. Bedford, T. F. Main, Chas. A. Robbins.

Alderman Wright, on behalf of the Mayor, welcomed the Association to Toronto and tendered them the use of the City Council Chamber during their stay.

President's Address.

During the absence of the committee, the President delivered his opening address, in which he gave an interesting review of pharmacy in the past, tracing its first beginnings from the earliest antiquity to the present time, and concluding with several recommendations in respect to desirable improvements in the working of the Association.

The address was acknowledged by a vote of thanks, and was referred to a committee of three, consisting of Messrs. E. P. Nichols, J. Ingalls, and T. J. Casper, to report on the suggestions contained therein.

Invitations, etc.

An invitation of Messrs. Gooderham & Worts to visit their distillery was accepted.

On motion, the professors of the University of Toronto, the members of the medical profession, and such other persons as might take an interest in the proceedings, were invited to take seats in the convention.

The appointment of the Committee to Nominate Officers for the ensuing year being next in order, the following were appointed: G. J. Waugh, L. J. Munson, L. Shaw, E. A. Sayre, C. L. Diehl, T. R. Baker, H. P. Tarrant, G. F. H. Markoe, Ch. Holzhauer, Ch. A. Tufts, J. A. Millburn, M L .M. Peixotto, A. Tscheppe, S. A.D. Sheppard, E. Eareckson, R. V. Mattison, H. S. Wellcome, T. F. Main, W. McIntyre, A. L. Calder, A. E. Ebert. The chair appointed in addition to these the following members at large: E. Gregory, Z. J. Belt, J. A. Miller, W. Neergaard, A. S. Lane. On a subsequent motion, the following two members were added to the committee: E. H. Heinitsch, of the South Carolina Pharmaceutical Association, and J. Ronnefeld, of the Michigan State Pharmaceutical Association.

"Centennial Fund."

Dr. Ad. W. Miller, of Philadelphia, the Local Secretary during the centennial year, made an important report on the unexpended balance in the hands of the Entertainment Committee of Philadelphia, in which he stated that a sum of $525.00 had b een left over, which the committee tender to the American Pharmaceutical Association, *provided* a like amount be added to it by the members of the Association within one year from this session. This fund shall

be known as the "Centennial Fund," and shall be applied to defray actual expenses incurred by members in the pursuit of original investigations on behalf of the Association.

The report was accepted and referred to the Committee on the President's Address.

Membership.

The Chairman of the Executive Committee reported the membership to be 1,160 against 1,066 of the previous year. During the past year five members resigned, 32 were dropped from the rolls, and the following thirteen died: Alex. King, Buffalo, N. Y.; B. H. Reinold, New York; Chas. W. Badger, Newark, N. J.; W. G. Smith, Louisville, Ky.; H. Arn. Hughes, Louisville, Ky.; Ch. Edw. Eyster, Duluth, Minn.; W. J. Bertolett, Shreve, O.; Gust. Mallinckrodt, St. Louis, Mo.; Charles H. Atwood, Boston, Mass.; Max Frohwein, New York; Geo. M. Howard, Washington, D. C.; G. W. Aimar, Charleston, S. C.; H. C. Porter, Towanda, Pa. 148 new members had been enrolled during the year.

Mr. Elliott, the President of the Ontario College, invited the members present to a reception and entertainment to be given on Wednesday evening at the Normal College. This invitation, as well as one received from the Junior Pharmacists of Toronto, were accepted, with thanks.

The Permanent Secretary then presented his report, which, on motion, was accepted, and the recommendations contained therein referred to the Committee on the President's Address.

The President appointed as Committee on Specimens: H. J. Rose, G. F. M. Markoe, Chas. Rice, T. R. Baker, and Alb. E. Ebert.

At this point the meeting was adjourned.

Second Day of the Meeting.

The second session was called to order on Wednesday at 9 A.M. Credentials of the following delegates were handed in, and the same were declared entitled to seats in the Convention: *Chicago College of Pharmacy*—A. E. Ebert, E. H. Sargent, N. G. Bartlett, J. W. Mill, Chas. F. Hartwig. *Maine Pharmaceutical Association*—S. D. Wakefield.

Nominations.

Election of officers being next in order, the Committee on Nominations reported the following list of officers:

President—William Saunders, London, Ontario.

1. *Vice-President*—Ewen McIntyre, New York, N. Y.
2. *Vice-President*—John Ingalls, Macon, Ga.
3. *Vice-President*—Emlen Painter, San Francisco, Cal.

Treasurer—Charles A. Tufts, Dover, N. H.

Permanent Secretary—John M. Maisch, Philadelphia, Pa.

Local Secretary (elected later)—J. D. Rankins, Atlanta, Ga.

Reporter on the Progress of Pharmacy—C. Lewis Diehl, Louisville, Ky.

Executive Committee—Geo. W. Kennedy, Pottsville, Pa.; H. P. Tarrant, Augusta, Ga.; A. L. Calder, Providence, R. I.; J. G. Steele, San Francisco, Cal.; John M. Maisch, *Perm. Sec'y, ex-officio*, Philadelphia, Pa.

Committee on Drug Market—Wm. H. Wickham, New York, N. Y.; T. R. Baker, Richmond, Va.; S. Carter, Boston, Mass.; H. W. Fuller, Chicago, Ill.; Ch. F. G. Meyer, St. Louis, Mo.

Committee on Papers and Queries—Ed. P. Nichols, Newark, N. J.; J. Shuttleworth, Toronto, Can.; M. L. M. Peixotto, New York, N. Y.

Business Committee—H. J. Menninger, New York, N. Y.; H. S. Wellcome, New York, N. Y.; Wm. Simpson, Raleigh, N. C.

Committee on Prize Essays—C. Lewis Diehl, Louisville, Ky.; J. F. Judge, Cincinnati, O.; E. Sheffer, Louisville, Ky.

Committee on Legislation—John M. Maisch, Philadelphia, Pa.; S. A. D. Sheppard, Boston, Mass.; Ad. Pfeiffer, St. Louis, Mo.

On motion, the President was requested to cast affirmative ballots for the nominated officers, which was carried unanimously, when the ballots were deposited, and the nominees were declared elected. A committee having been appointed to conduct the newly-elected President to the chair, during their absence the following were proposed as candidates for membership in the Association, and elected:

New Members.

J. Falc, Hawkinsville, Ga.; Burt P. Gates, Saratoga Springs, N. Y.; Carrol E. Gates, Saratoga Springs, N. Y.; J. Choate, Fitchburg, Mass.; Wm. H. Gray, Springfield, Mass.; Frank G. Somers, Detroit, Mich.; Geo. R. Armstrong, South Charleston, O.; James T. Renouff, Winsted, Conn.; Em. L. Borner, Iowa City, Iowa; Ed. Dana, jr., Portland, Me.; Rob. E. Parsons, Orange, Essex Co., N. J.; Wm. Ed. Lindewald, Philadelphia, Pa.; Jos. P. Evans, West Chester, Pa.; O. M. Oleson, Fort Dodge, Iowa; Thos. P. Cook, Philadelphia, Pa.; Isaac M. Seltzer, N. Y.; C. B. Elbe, Alameda, Cal.; Wm. C. Brigham, Medford, Mass.; Dan. H. Howard, Medford, Mass.; Fr. Raas, Brooklyn, N. Y.; Ed. P. Burley, Boston, Mass.; Geo. H. Stoddard, Boston, Mass.; H. A. Knowles, Toronto, Ont.; Geo. Hodgetts, Toronto, Ont.; T. Jordan, Goderich, Ont.; R. B. Hall, Macon, Ga.; Wm. Elliott, Toronto, Ont.; John Henderson, Toronto, Ont.; Wm. S. Milliner, Spenceport, N. Y.; T. H. Sands Pennington, Saratoga Springs, N. Y.; J P. Scherff, Bloomfield, N. J.; Wm. L. Robinson, Yorkville, Ont.; Osc. C. Dudley, N. Y.; Fr. C. Miville, Manchester, N. H.; Adolph Levy, Brooklyn, N. Y.; Wm. G. Mortimer, New York, N. Y.; John C. Lander, Yorkville, Ont.; B. A. Mitchell, London, Ont.; E. B. Shuttleworth, Toronto, Ont.; J. D. Rankins, Atlanta, Ga.; H. J. Marshall, Aurora, Ind.; H. E. Ahlbrandt, St. Louis, Mo.; L. S. Cohen, New York, N. Y.; E. Harvey, Toronto, Ont.; George Massey, Toronto, Ont. The following were elected Honorary Members of the Association: M. Planchon, Paris, France; H. A. L. Wiggers, Göttingen, Germany; Xav. Landerer, Athens, Greece; Ed. Schaer, Zurich, Switzerland.

The President-Elect.

The newly-elected President, William Saunders, having been conducted to the chair, after a brief but eloquent address of welcome, the business of the session was continued.

Treasurer's and other Reports.

The Treasurer reported the receipts of the past year to have been $6,514.27, and the disbursements $5,559.98, leaving a balance in the treasury of $954.29. The report was accepted and referred to an *Auditing Committee*, who at a subsequent session reported the accounts correct. Mr. John Ingalls, of Macon, Ga., then arose, and in a most cordial manner invited the Association to meet next year in Atlanta, Ga. The proposition was referred to a committee of three, to report on the time and place of next meeting. Prof. C. L. Diehl read the introductory part of his *Report on the Progress of Pharmacy*, which was referred to the Committee on Publication. The report of the *Committee on Prize Essays* having been read, on motion of Dr. E. R. Squibb the recommendations contained therein were referred to the new Committee on Prize Essays for report. The Committee on *Adulterations and Sophistications* presented their report, which was read by the Secretary. Prof. J. P. Remington read a "*Supplementary Report on the Centennial Exhibition*," all of which were referred for publication. At the close of the session the members adjourned to view the exhibition of pharmaceutical and chemical specimens at Temperance Hall. [See pp. 280, 281.]

Afternoon Session.

The afternoon session of Wednesday having been called to order at 3 o'clock, the Business Committee moved to act on the proposed amendment to by-laws, proposed by Ch. L. Eberle, which consisted in the addition to Chap. 7, Art. 10, the following:

"A motion to expel a member shall be laid over to the session next succeeding that at which a motion is made."

After some discussion the amendment was adopted.

At this point His Worship, Angus Morrison, the Mayor of Toronto, entered the room, and having been presented by the President, extended to the members present the welcome and hospitalities of the city.

PLACE OF MEETING NEXT YEAR.

The *Committee on Time and Place of next Meeting* then presented their report, recommending the next meeting to be held at Atlanta, Ga., on the 3d Tuesday in September, 1878. Various amendments, altering the time, having been proposed, and the fears of the members as to the insalubrity of the meeting-place at an earlier day having been allayed by several Southern members, it was finally resolved to meet next year at Atlanta, Ga., on the first Tuesday in September.

VOLUNTEER PAPERS AND ANSWERS TO QUERIES.

L. MYERS CONNOR (Dallas, Tex.): "Syrup of the Iodide of Iron."

J. U. LLOYD (Cincinnati, O.): "On Officinal Fluid Extracts."—The effect of using percolators of varying diameters in the preparation of the same fluid extract from a finely powdered drug, is to produce greatly varying products. According to the author, the height which a powder should occupy in the percolator is of great importance; he thinks that 16 troy ounces of a moistened powder should occupy a space at least 15 inches high.

The following fluid extracts should be prepared with strong alcohol, as this would exclude much inert matter: Stillingia, Hyoscyamus, Matico, Belladonna root, Hydrastis Canadensis, Digitalis. The first four of these, as well as that of Colchicum root and seed, may also, perhaps, be made by the officinal process, finishing the percolation, however, with a menstruum consisting of 3 parts of alcohol and 1 of water. In the case of Hydrastis and Colombo this may also be done, substituting a menstruum of 7 p. of alcohol and one of water. The author rejects acetic acid in fluid extract of ergot, and uses a menstruum of 3 parts of water and 1 p. of alcohol. The gelatinizing of officinal fluid extract of geranium may be avoided by using the author's process for preparing fluid extract of fresh cotton-root bark.* Fluid extract of ipecac should be prepared by adding 8 fl. oz. of water and the acetic acid to the percolate before evaporation. It should *not* be boiled.

2. CHAS. A. ROBBINS (New York): "Veratrum Viride." The author has re-examined the alkaloids contained in this drug, and obtained from a liquid preparation made from the fluid extract, and deprived of its resin. Addition to the liquid of sodium bicarbonate produced a precipitate, which was found to consist of jervia, resin, and coloring matter. The remaining fluid yielded to ether, on shaking, a substance which appeared, after the evaporation of the ether, in the form of crystalline scales. A small quantity of this causes sneezing, like veratria. This seems to be a new substance, as it does not give any of the reactions for veratria, and is very poisonous. Parallel physiological experiments upon rabbits and frogs with veratria and the new substance, also indicated their difference of nature. The substance is named by the author provisionally *veratridia*.

3. ADOLPH W. MILLER (Philadelphia): "On the Use of Cassia Fistula in Confection of Senna." Although the use of purging cassia is perfectly legitimate and universally adhered to in the preparation of confection of senna, it might, perhaps, better be left out, as it is apt to gripe. Figs are also considered useless, because the numerous seeds, which themselves are supposed to be the main cause of the purging action, are excluded. The only other two purging ingredients (prunes and tamarinds) would, therefore, have to be increased. The following formula is therefore proposed:

Take of senna, in fine powder, 8 troy oz.; coriander, in fine powder, 4 troy oz.; tamarind, 16 troy oz.; prunes, sliced, 17 troy oz.; sugar, in coarse powder, 30 troy oz.; water, q. s. Place the tamarinds and prunes in a close vessel with 3 pints of water, and digest for 3 hours by means of a water-bath. Separate the coarser portions with the hand, and rub the pulpy mass, first through a hair sieve, and then through a fine one, or through a muslin cloth. Mix the residue with a pint of water, and, having digested the mixture for a short time, treat it as before, and add the product to the pulpy liquid first obtained. Then, by a water-bath, dissolve the sugar in the pulpy liquid, and evaporate the whole until it weighs 84 troy oz. Lastly, add the senna and coriander, and incorporate thoroughly. The whole should weigh 96 troy oz.

The corresponding formula of the German Pharmacopœia is still simpler, and even deserves the preference.

10. JOS. ROBERTS (Baltimore). "Cantharidal Collodion." The formula in the pharmacopœia being faulty, and not being followed by manufacturers, the author appends a working formula: Mix 8 troy oz. of powdered cantharides with 4 fl. oz. of stronger alcohol, pack in displacer, add 4 fl. oz. of stronger ether, cork the orifice, and cover the funnel. After 12 hours remove the cork and percolate with a menstruum of equal parts of ether and alcohol, until 15 fl. oz. have passed, which reserve. Collect 4 fl. oz. more, which evaporate to 1 fl. oz., and add to the first. Then dissolve in it 144 grains of pyroxylin.

15. W. S. THOMPSON (Baltimore). "Oleates of Mercury, Morphia, Quinia, etc."—*Oleate of mercury* (10 per cent.). The author dissolves mercuric oxide (1 troy oz.) in nitric acid (6 fl. dr.), filters the solution into a dish containing 6 fl. oz. of liquor sodæ, and washes the precipitate thoroughly by decantation. The dish containing the moist pulp is then placed on a water-bath, the oleic acid (2½ troy oz.) is added, and stirred until combined, adding if necessary a little boiling water occasionally. Evaporate off all trace of moisture, and then add enough cosmoline to make the product weigh 10 Troy oz.—*Oleate of aconitia* (3 per cent.). Dissolve 5 grains of aconitia in 1 fl. dr. of alcohol, add to it 30 min. of oleic acid, heat on water-bath, until alcohol is evaporated, and add 465 grs. of cosmoline.—*Oleate of atropia* (1 per cent.). Same process.—*Oleate of quinia* (25 per cent.) Precipitate 145 grs. of quinia sulphate, place the washed magma into a capsule on a water-bath, and add 240 grs. of oleic acid, heat until combined, remove the adherent water, and add cosmoline until the product weighs 432 grs. The author gives some other formulæ for oleates, which are all made on the same plan.

16. G. W. KENNEDY (Pottsville, Pa.). "The Quantity and Quality of Aqueous Extract of Aloes, extracted by Hot or Cold Water." Hot water extracts 83 per cent., and cold water 47 per cent. of soluble matters. The cold water extract was found to be more active.

20. DAVID HAYS (New York). "On the Increase of the Solubility of Salicylic Acid by certain Salts, and an Inquiry into the Chemical Changes produced thereby." Sodium phosphate was the first salt experimented with. This, when dried, is capable of dissolving half its weight of the acid. 1 dr. of sodium phosphate and ½ dr. of the acid, when dissolved, the solution filtered and cautiously evaporated, produce a dirty, cream-colored mass, which, after removal of the mother-water, was found to consist of minute shining crystals, giving reactions of all the original substances employed. A quantity of these were shaken with alcohol in a test-tube, by which treatment they partly dissolved, and yielded a cloudy solution with formation of transparent crystals upon the side of the tube. This treatment with alcohol was repeated to *exhaustion*. After draining, the crystals dissolved in water gave a clear solution. This solution gave *no* reaction for salicylic acid, but contained only sodium phosphate. The alcoholic solution gave reaction of salicylic acid, but, besides, gave distinct evidence of the presence of sodium salicylate (a small quantity being heated on platinum, melts, deflagrates, and leaves a charred mass behind, which forms a very alkaline solution with water, etc.). Hence, it is evident that decomposition has taken place, a portion of the salicylic acid having combined with the alkali. The author supposes the reaction to take place in this way:

$$\underset{\text{Sodium (mono-hydro-) phosphate}}{Na_2HPO_4} + \underset{\text{Salicylic acid}}{2HC_7H_5O_3} = \underset{\text{Sodium salicylate}}{NaC_7H_5O_3} + \underset{\text{Salicylic acid}}{HC_7H_6O_3} + \underset{\text{Sodium (dihydro-) phosphate.}}{NaH_2PO_4}.$$

The same results were obtained by using ammonium phosphate.

* See Proc. Am. Ph. Asso., 1876, NEW REM., v., p. 304.

DR. SQUIBB, in referring to the above paper, stated that he had found the sublimed acid to be most free from impurities. The crystallized acid might be pure or impure, according as the *menstruum* used had been pure or impure. He found the acid useful in preventing microscopic growths in certain solutions, sulphate of atropia, for instance. In his opinion, the reduction of temperature following the internal administration of salicylic acid and its compounds was as certain as that symptoms of poisoning would follow the administration of arsenic. He considered that the dialyzed acid was the most economical to import, as on sublimation it yielded over 92 per cent. of pure acid. It was by accident that he discovered that salicylic acid would sublime by means of a steam process. It had been stated by European authorities that the acid would not be sublimed, although he had sent to Europe several specimens of the acid sublimed in the manner he had mentioned.

27. GEO. ZELLHOEFER (New York): "The Yield of Ergotin by Bonjean's Method, using Various Strengths of Alcohol." The method consists in exhausting finely ground ergot with distilled water and evaporating the infusion on a water-bath to the consistence of honey, then adding a large excess of alcohol to the extract, with constant stirring, to precipitate all the gummy substance. After 24 hours the liquid is filtered off and evaporated to the consistence of a soft extract. When using alcohol of different strengths the yield varies greatly, as the following table shows:

No.	Density of Alcohol.	Yield of Ergotin from One Pound of Ergot.
1	0.817	630 grains or 9. per cent.
2	0.832	800 " " 11.5 "
3	0.860	1050 " " 25. "
4	0.893	1700 " " 24.5 "

The most satisfactory strength is 0.832. The author recommends the following formula: 16 oz. of fine ergot are macerated with three pints of cold distilled water for 12 hours. The liquid is strained and pressed off, the residue once more treated in the same manner, and both liquids together evaporated to 4 oz. by weight on a water-bath. Then 16 fl. oz. of alcohol, spec. gr. 0.832, are added. After 24 hours the liquid is removed, the alcohol recovered by distillation, and the liquid evaporated to an extract, using as little heat as possible.

32. J. U. LLOYD: "Glycerine in Fluid Extracts." The author thinks that glycerine is of decided advantage only in the following officinal fluid extracts: pipsissewa, cinchona, dogwood, crane's bill, cotton-root bark, rhatany, matico, rubus vill., and uva ursi, while in the others it is of only equal value with water, and in others of very doubtful value.

40. A. P. BROWN (Camden, N. J.): "The Therapeutic Value of Aloin compared with Aloes." The author states that in equal doses these two substances produce equal effects, the former perhaps not griping as much as the latter. But aloin does not appear to possess any advantages over aloes.

42. R. V. MATTISON (Philadelphia): "On Salicylic Acid and its Uses." The author does not give any new results, but only a summary of the existing knowledge.

51. JOS. ROBERTS (Baltimore): "On the Nature of the Compound produced by Camphor and Chloral Hydrate." The compound is doubtlessly merely a solution of chloral hydrate in camphor, although the boiling-point is some 60 degrees lower than that of chloral.

PROF. ALBERT E. EBERT, of Chicago, submitted two samples of *gum galbanum*, which he said he had bought in Chicago. He said that the article in question contained very little *galbanum*, but was for the most part simply rosin and turpentine.

PROF. P. W. BEDFORD, of New York, said galbanum, which was strained, could not be pure.

DR. HENRY J. MENNINGER, of Brooklyn, spoke of some sophistication which had come under his observation.

The Committee on the President's Address brought in their report. It recommended that the question of providing a fund for defraying the expenses of original investigations be referred to a Special Committee. It suggested certain amendments to the Constitution in regard to the payment of initiation fees by delegates, and an additional tax upon life-members under the old Constitution.

The report was accepted, and the meeting adjourned until Thursday morning.

CONVERSAZIONE AT THE NORMAL SCHOOL.

At eight o'clock, the guests of the Ontario College of Pharmacy assembled in the rooms of the Normal School, the number of ladies in attendance being unusually large. The company was assembled in the theatre, where Dr. Wm. Eliott, President of the College, occupied the chair, and was accompanied by Dr. Hodgins, Deputy Minister of Education, the President-elect, Mr. Wm. Saunders, the retiring President, Mr. Chas. Bullock, and the Permanent Secretary, Prof. Maisch, of the American Pharmaceutical Association. After music by the band of the "Queen's Own Rifles," addresses were made by Dr. Hodgins and Messrs. Elliott and Bullock. Following the performance of "Yankee Doodle" by the band, the company listened to a selection of a dozen vocal pieces and a brief address on the museum and objects of art. During the intermission, and following the address, the company promenaded through the museum and galleries, where, among other objects of interest, microscopic, spectroscopic, and electrical entertainments were given by Dr. F. Wright, Mr. D. K. Winder, and others.

From 9.30 o'clock, refreshments were provided in one of the school buildings.

The reception was in every respect successful and agreeable, and will cause the hospitality of our Canadian friends to be long remembered.

THIRD DAY OF THE MEETING.

The President called the meeting to order at 9.15 A.M., a large number of ladies as well as members being in attendance.

REPORTS.

Following the reading and adoption of the Minutes, the Committee on the President's Address read their report, which was discussed, but the decision of the questions involved was postponed to the next Annual Meeting.

THE PRESIDENT, as Chairman of the Committee on the Drug Market, then read the report, in which considerable attention was paid to the differences between the drug markets of the United States and Canada, and to the nature of the drugs found in Canada, and their supply.

The time having arrived for the transaction of unfinished business,

THE UNITED STATES PHARMACOPŒIA

became next the question for discussion.

DR. SQUIBB expressed a desire that the subject of improvements in the method of revision should be allowed to drop; and referred to the unjustifiable treatment to which the publication of his views of the question had subjected him.

MR. SHEPPARD, of Boston, spoke of the indebtedness of the Association to Dr. Squibb for the part he had taken in this question, and offered the following resolution:

Resolved, That while there is among the members of the American Pharmaceutical Association an honest difference of opinion as to the advisability of the plan suggested by Dr. Squibb, the thanks of the Association be and are hereby tendered to Dr. E. R. Squibb, of Brooklyn, N. Y., for his earnest efforts during the past two or three years to inaugurate an improvement in the plan of revision of the U. S. Pharmacopœia.

The announcement, by the President, at this point in the proceedings, that an organ recital had been offered to the members of the Association in the Metropolitan Church, led to the departure of the ladies in a body, after which, Mr. Sheppard's motion, being seconded by Dr. Menninger, of Brooklyn, was unanimously adopted.

DR. SQUIBB expressed, with much feeling, his thanks for the compliment paid him by the Association.

DR. HOFFMAN, of New York, read a preamble, and offered the following resolution:

Resolved, That the President of this Association appoint a committee of five to take into consideration the advisability and feasibility on the part of the American Pharmaceutical Association, as the national representative organization of the profession of Pharmacy, to prepare a complete Pharmacopœia, which may be proposed to the final committee of revision, and may be submitted to the criticism of the medical and pharmaceutical professions; and that that committee be instructed to report early at the next session, so as to leave time for definite action at that meeting.

PROF. EBERT, of Chicago, seconded the resolution, which was then discussed by Messrs. Bullock, Menninger, Calder, and Shinn. The former objected to a reference which had been made in the preamble to the American Medical Association, in the nature of a censure. He held that the American Pharmaceutical Association had no right to censure that body, and that such action would lead to trouble.

The preamble was therefore amended so as to avoid this objection, and was in this shape, together with the resolution, unanimously adopted.

SALARY OF THE TREASURER.

MR. CH. L. EBERLE, of Philadelphia, of the Committee on the Treasurer's Report, reported favorably, and further recommended that his salary be increased by $100.

On motion of Mr. Menninger, and after some discussion, the report was adopted.

The practicability of increasing the funds of the Association, through abbreviation of the list of life membership, was suggested by Mr. Calder, and the question was referred to a special committee.

PAPERS.

G. F. H. MARKOE (Boston, Mass.): "The Essential Oil of *Myrcia* (*Pimenta*) *acris*, or Bay-Oil." The author has subjected 7,000 pounds of Myrcia leaves to distillation in a copper still of 200 gallons capacity, arranged for both wet and dry steam. 200–300 pounds of the leaves were treated at a time, which yielded in 12 hours 80-100 gallons of distillate. The product consists of a lighter portion, coming over very rapidly, of a spec. grav. from 0.807–0.990, and a heavier portion, coming over very slowly, ranging between 1023–1037. The oil is colorless first, but gets tinted and dark in time. The heavy oil, by slow distillation, yielded a number of portions of various specific gravities, being light-colored from 1025–1048, darker colored towards the end, when the specific gravity is reduced again to 1042, and finally a dark, nearly black portion, of 1035. By redistilling the light oil, some very light fractions were obtained, having a spec. grav. of 0.829 at 77° F., and 0.835 at 60° F., which is no doubt the peculiar terpene of the oil. The residue left in the still consists of a very small quantity of a black, molasses-like substance, which is no doubt the resin produced from the oil by oxidation, and imparting to it its color.

The paper was accepted and referred to the Committee on Publication.

12. P. W. BEDFORD (New York): "White Wax and its Adulterants." The author describes the mode of bleaching wax, which consists in melting the crude beeswax, letting it run in a fine stream upon a wheel revolving in water, whereby it is spun into thin ribbons, which are placed in the sun and sprinkled with water. This process is repeated several times, and after 24 to 72 hours the wax is cast in the form of cakes, which are exposed to sunlight in single layers under glass. Pure wax is never quite white, but has a yellowish creamy tint. Seventy-five per cent. of all the wax of commerce is adulterated, which is owing to the fact that the greater part of it is used for manufacturing purposes (artificial flowers and candles), where pure wax would be too brittle. The chief adulterants are paraffin, stearin, and ceresin; also Japan and China wax. The best tests of purity are: white wax has a cream color, is soluble in five parts of chloroform at 85° F., the solution becoming an emulsion on reduction of temperature. At 80–85° F. wax becomes plastic by kneading. When chewed it separates into laminæ. Pure wax cannot be smoothly moulded in metal moulds.

The paper was referred to the Committee on Publication.

PROF. REMINGTON, of Philadelphia, read a voluntary paper on "Hydrobromic Ether."

Owing to the fact that we have an article in the present number giving in part the information afforded by the author, we defer the publication of an abstract of this paper.

Regarding the Pharmacopœia question,

The PRESIDENT announced he had appointed the following gentlemen a committee to look into the matter and report at the afternoon session: M. L. M. Peixotto, N. Y.; J. P. Remington, Pa.; G. F. A. Markoe, Mass.; A. E. Ebert, Ill., and T. R. Baker, Va.

The Association then adjourned at 12.40 o'clock to meet again at 3 P.M.

AFTERNOON SESSION.

The chair was taken at 3 o'clock.

DR. MENNINGER moved "That the by-laws be amended so as to admit of the increase of the Treasurer's salary from $400 to $500."

The motion was carried unanimously.

VOLUNTEER PAPERS AND ANSWERS TO QUERIES.

The PRESIDENT read a paper on the properties and composition of Cologne water, in the course of which he recommended the following formula as a good substitute for Farina's article—

Oil of Neroli,	5 dr. and 20 ♏.
Bergamot,	1 oz.
Rosemary,	1 dr. and 20 ♏.
Extract Jasmine,	1 oz.
Pure alcohol,	2 pints.
Water,	2 pints.

Mix and filter through a little magnesia, if necessary.

In commenting upon this paper, Dr. E. R. Squibb remarked that acetic ether should always be added to cologne, as it thereby becomes much more grateful to the sick. Dr. Menninger recommended the addition of 1 fl. oz. of acet. ether to the gallon of cologne.

DR. PILE (Philadelphia), read a volunteer paper on "Dialyzed Iron," in the course of which he recommends to use a cold saturated solution of sodium carbonate in place of water of ammonia, to precipitate the ferric chloride. The addition of the sodium carbonate solution is continued until, after shaking, a small quantity of the precipitated ferric carbonate remains undissolved. The liquid, after dialyzing for 24 hours, had a spec. gr. of 1055; after 8 days it had increased greatly in bulk, owing to the upward endosmis of water, and had a spec. gr. of 1029.

MR. F. B. POWER (Strassburg, Germany), contributed a paper "On the Constituents of Resin of Podophyllum," which was read, in the absence of the author, by the Permanent Secretary. From this lengthy and valuable paper we shall for the present only quote the main results, which appear to have been arrived at after exhaustive study of the subject. The author found in the rhizome a small quantity of a volatile fatty acid, which is probably myristic acid, to which the odor of may-apple root is due. It contains no tannin; the coloration which ferric chloride produces being due to the peculiar resin. The rhizome *contains no berberina*, and the coloring matter is due to the resin itself. Protocatechuic acid is obtained from it, and probably exists in it ready formed, which would be the first instance known. The active portion of the resin is almost entirely soluble in hot water.

MISCELLANEOUS BUSINESS.

PROFESSOR BEDFORD, of New York, tendered the resignation of the Committee on the Pharmacopœia, which had been unable to accomplish much during the past year.

MR. RICE moved that the resignation be accepted, and that the committee be thanked for past labors. Carried.

The report of the committee appointed at the morning session was then read. It recommended that the work of compiling a preliminary Pharmacopœia be assigned to a special committee of fifteen.

The report was adopted, the selection of the members of the committee being left to the President.

The PRESIDENT named the following gentlemen as the committee on the proposed alterations of the by-laws: Charles L. Eberle, Philadelphia; Edmund Gregory, Lindsay, Ont.; W. H. Rogers, Middleton, N. Y.; Chas. A. Tufts, Dover, N. H.; Prof. J. M. Maisch, Philadelphia.

At 6.45 P.M. the meeting adjourned until Friday morning.

FOURTH DAY OF THE MEETING.

VICE-PRESIDENT INGALLS called the meeting to order yesterday at 9.10 A.M. The minutes of the present session were confirmed.

HENRY S. WELLCOME (New York) read a paper on "Bromine Production in the United States."

MR. SHINN (Philadelphia), on behalf of Dr. Miller, submitted specimens of paraffin paper, which he said would be found a good substitute for wax paper, tin foil, etc., in wrapping up drugs of an oily nature.

PROFESSOR G. F. H. MARKOE (Boston) then made a verbal report, in answer to a query proposed last year on: "Microscopes suitable for the Pharmacist." Professor Markoe exhibited one of Zentmayr's Histological Microscopes, which embraces not only all the most desirable features of the more elaborate instruments, but likewise some entirely new improvements, among them a reflecting mirror revolvable around the stage, for illuminating transparent as well as opaque objects, which make it the most suitable and cheapest microscope for pharmacists and physicians. Price, $30.00, without objectives.

59. G. F. H. MARKOE (Boston, Mass.): "Can the Alcoholic Extract of Scammony be substituted for the Resin of the U. S. P." The author states that the product obtained by exhausting scammony with hot or cold alcohol is only about 2 per cent. in excess of that obtained by the officinal process, and that this extract may be regarded, for all purposes, to be identical with the officinal resin.

PRESIDENT SAUNDERS read a voluntary paper on the quality of cream of tartar supplied to the people of Ontario. He had examined several samples obtained in London, Ont., and found them to be largely adulterated, and extensively purchased by the local dealers in Toronto.

MR. SAUNDERS then took the chair and named the following gentlemen as a committee on the Pharmacopœia: Charles Rice, Dr. F. Hoffman, P. W. Bedford, New York; Prof. J. M. Maisch, Prof. J. P. Remington, Charles Bullock, Philadelphia; G. F. H. Markoe, S. A. D. Sheppard, Boston; John F. Hancock, Baltimore; A. E. Ebert, Chicago; C. Lewis Diehl, Louisville; E. S. Wayne, Cincinnati; W. H. Crawford, St. Louis; Charles Mohr, Mobile, Ala.; Emlen Painter, San Francisco.

On motion of Dr. HOFFMAN, the name of the President was added to the Committee.

MR. SHEPPARD moved that the sum of $50 be placed at the disposal of the Committee. Carried.

The report of the Exhibition Committee was read by the Secretary, and adopted.

MR. HENRY S. WELLCOME, New York, thought that the annual exhibitions of the Association only served as advertising mediums to the firms who exhibited, and did not benefit the members. He moved that they be discontinued.

The SECRETARY, in amendment, moved that the matter be referred to the Executive Committee, with instructions to report thereon next year.

MR. KENNEDY seconded the amendment, which was carried.

Answers to questions were continued as follows:

BENJ. T. FAIRCHILD (New York) sent a lengthy paper in answer to the query, "What knowledge of therapeutics should the properly educated pharmacist possess?" which was of considerable interest, but could hardly be given in brief.

The SECRETARY read a letter from the Secretary of the Toronto Mechanics' Institute, placing the privileges of the reading-room at the disposal of the members of the Association during their stay in the city. The letter was received, with thanks.

DR. MENNINGER, of Brooklyn, moved the following resolution:

Resolved, That the thanks of the Association be and are hereby tendered to the Department of Education of the Province of Ontario, to the officers and members of the Ontario College of Pharmacy, and their ladies, and to the citizens of Toronto, for their uniform kindness and hospitable attention to the members of this Association during their stay in Toronto; Resolved, also, that the thanks of this Association be tendered to the City Government of Toronto for the use of the City Chamber during our sessions.

The motion was carried.

Prof. A. E. EBERT, of Chicago, made the following motion:

Resolved, That the thanks of this Association are due and are hereby tendered to the press of Toronto for their faithful and complete reports which have been published of the proceedings from day to day.

Carried.

MR. E. P. NICHOLS presented a report of the Committee on Queries and Papers, which was adopted.

Eleven new members and four honorary members were proposed and elected. [See list on page 275.]

MR. J. D. RANKINS, of Atlanta, Ga., was elected local secretary for the current year.

A vote of thanks was unanimously passed to the retiring local secretary, Mr. Henry J. Rose, of Toronto, who briefly responded.

Toasts and speeches followed for a short time, and the business of the meeting having thus been concluded, the Association adjourned to meet in Atlanta, Ga., on the first Tuesday of September, 1878.

LIST OF QUERIES ACCEPTED FOR INVESTIGATION BY THE MEMBERS WHOSE NAMES ARE ADDED IN BRACKETS.

1. In view of the remedial properties accorded to cocaleaf—Erythroxylon Coca, what pharmaceutical preparation can be made, having its properties in the most desirable form? (G. W. Kennedy, Pottsville, Pa.)

2. What is the therapeutic value of dialyzed iron as an antidote for arsenious acid as compared with the hydrated ferric oxide? (Ad. Tscheppe, New York, N. Y.)

3. Would the substitution of citrate of sodium for citrate of ammonium in the officinal pyrophosphate of iron make the latter less liable to become insoluble on keeping? (G. F. H. Markoe, Boston, Mass.)

4. What is the comparative therapeutic value of ergot grown in the United States and Europe? (G. Zellhoefer, New York, N. Y.)

5. Ergot contains a large quantity of fixed oil, which sometimes interferes with percolation, and which the British Pharmacopœia removes by ether. May petroleum benzin be used for the same purpose and without injuring the medicinal properties of ergot? What quality of benzin (spec. grav., boiling-point, etc.,) is best adapted for the purpose, and may the fixed oil be used either in medicine or the arts? (P. W. Bedford, New York, N. Y.)

6. Damiana.—An essay in regard to its medicinal value and active constituents, including its history and botanical source. (H. J. Menninger, Brooklyn, N. Y.)

7. Are there any drugs now successfully cultivated here which were formerly obtained from foreign countries? (H. S. Wellcome, New York, N. Y.)

8. Compound resin cerate alters in consistence upon keeping. How can this be prevented? (S. A. D. Sheppard, Boston, Mass.)

9. Confectioners frequently use deleterious substances for coloring candies. How can harmless colors, suitable for their use, be made? (Referred to S. P. Sharples, Boston, Mass.)

10. Tinctures.—Experiments and suggestions in regard

to proportion of drug and strength of alcohol necessary for extraction and preservation. (Referred to Jac. Jesson, Pentwater, Mich.)

11. On the condition of the mercurial constituent in the several pulverulent preparations as recommended to be prepared with sugar of milk. (See Amer. Jour. Phar., 1876, p. 267). (P. W. Bedford, New York, N. Y.)

12. To what extent do the pills of the U. S. P. supply the demand for ready-made pills? Are there any formulas which if introduced would add to the value of the list? (R. V. Mattison, Philadelphia.)

13. How do the commercial bismuth preparations compare with the requirements of the U. S. P. (A. Tscheppe, New York, N. Y.)

14. It is written of the berries of Benzoin odoriferum (spice-bush berry) that they yield nearly fifty per cent. of fixed oil, besides about five per cent. of agreeable volatile oil. Is this really so? The plant being very common in some parts of the United States, for what can its products be utilized? (A. W. Miller, Philadelphia, Pa.)

15. There is a counter-irritant or revulsive plaster spread upon linen or cotton-cloth purporting to be made in Paris, France, under the name of "Emplastrum Thapsiæ." As this has decided therapeutic value, what is its composition, and can it be advantageously prepared and kept for extemporaneous use? (H. P. Tarrant, Augusta, Ga.)

16. What advantage, if any, would result from the removal of fixed oil from colchicum seed preparatory to the preparation of the fluid extract? (E. L. Boerner, Iowa City, Iowa.)

17. Extractum Glycyrrhizæ fluidum.—Should the alcoholic strength of the preparation be reduced, or what other changes are desirable in the formula to increase its adaptability for masking the taste of unpleasant medicines under varied circumstances? (J. P. Remington, Philadelphia, Pa.)

18. Can any improvement be suggested in the formula of the Pharmacopœia for fluid extract of wild cherry—keeping its object in view to represent chiefly the astringent and tonic virtues combined with as much hydrocyanic acid and volatile oil as may be obtained by percolation? (J. T. Shinn, Philadelphia, Pa.)

19. Solvents for wax, paraffin, stearin, and ceresin. Tests for the adulteration of wax. (P. W. Bedford, New York, N. Y.)

20. Galbanum is extensively adulterated. What are the adulterants? (A. E. Ebert, Chicago, Ill.)

21. Can salicin be economically made in North America, and by what process? (E. Gregory, Lindsay, Ont.)

22. Can grape sugar or glucose be substituted for cane sugar, honey, or glycerin, in pharmaceutical preparations? Give a practical essay on the subject. (E. H. Sargent.)

23. An essay on the conditions necessary to successfully conduct percolation. (J. U. Lloyd, Cincinnati, O.)

24. How can the salts of berberina be most easily prepared from Hydrastis Canadensis root? What will be the practical yield? And what are the solubilities of the different salts? (J. U. Lloyd, Cincinnati, O.)

25. Resin of Podophyllum is found upon the market in color ranging from light brown to deep yellow. Can these various shades be obtained from may-apple without the use of foreign substances. (J. U. Lloyd, Cincinnati, O.)

26. How do Rio and East India tapioca compare in dietetic value? (W. J. Jenks, Philadelphia, Pa.)

27. Give a formula for a concentrated liquid extract of lactucarium, from which the syrup, tincture, and other preparations can be made. (Jos. L. Lamberger, Lebanon, Pa.)

28. What is oil of cedar of commerce? Where and from what plant or plants is it made, and what is it used for? (J. H. Stein, Reading, Pa.)

29. Give a report on the brands of white wax in the market. (—.)

The Exhibition of Drugs and Chemicals.

This was held at Temperance Hall, very nicely adapted in size for the purpose, but unfortunately situated at some distance from the City Hall, where the meetings were held, and somewhat inconvenient for the members of the Association to visit, unless considerable time was devoted to it. Consequently, hardly as much time was given to it as its merits deserved. The cordial and energetic efforts of the gentlemen who had it in charge did much, however, to make it the success it really proved to be.

The following list enumerates briefly the firms represented and the nature of their wares:

E. Sheffer (Louisville, Ky.): Saccharated pepsin.

Henry Troemmer (Philadelphia): Prescription scales, 12 samples of the usual merit.

Wm. R. Warner & Co. (Philadelphia): Sugar-coated and compressed pills, fluid extracts, and syrups, 250 samples in all; also sample of their new patent shop-bottle.

William Saunders (London, Ont.): Fluid extracts, fine and very complete line of 125 samples.

Whitall, Tatum & Co. (Philadelphia): Green and flint glass-ware and druggists' sundries, 150 samples.

Powers & Weightman (Philadelphia): Drugs and chemicals. A large display, covering a table six by thirty feet, and consisting of a complete line of chemicals manufactured by this firm, noticeable among which were sulphate of zinc and sulphate of morphia, of each about 300 ounces; a sample of codeia, valued at over $500; nitrate of silver, 400 ounces; a full line of scale preparations of iron, which by their brilliant sparkle added largely to the beauty of the display. From a handsome alum base rose a pyramid of bottles containing many fine and rare chemicals, including nearly every known salt of quinine and a full assortment of mercurial preparations. Also interesting specimens of East India barks, nine varieties of crude argols, etc., the whole elegantly arranged in fine cut-glass bottles and under glass shades in three large pyramids. Mr. H. P. Cook, representing.

W. Millichamp (Toronto, Ont.): Show-cases, 3 samples.

Mellor & Rittenhouse (Philadelphia): Licorice, in sticks and lozenges.

F. Alfred Reichardt (New York): Damiana, tannate of quinia lozenges, and the other preparations for which this house is well-known.

B. O. & G. C. Wilson (Boston, Mass.): Roots, herbs, and leaves, pressed and loose, 75 samples—a magnificent display in one large case. Many newly introduced articles, amongst which were sea-wrack (*Fucus vesiculosus*), coca leaves, jaborandi, and others. The whole attracting the attention they deserved as being exceedingly handsome. Care in selecting, the cleanliness in putting up, and retention of color and strength, mark the superiority of the productions of this house. Mr. G. L. Wilson, representing.

H. K. & F. B. Thurber (New York): Pure wines, manufactured in the vineyard of Dr. Underhill, at Croton Point, on the Hudson River.

Von Buist & Co. (New Albany, Ind.): Soap-cutter—a simple and ingenious apparatus for the use of retail druggists. $3.50 each.

Fred. Hoffman (New York): Hager & Messter's Pharmaceutical microscopes. (See New Remedies, Vol. V., page 369.)

Tiemann & Co. (New York): Hypodermic syringes.

W. H. Schieffelin & Co. (New York): Soluble coated pills, a full and very satisfactory exhibit of this branch of their manufacture, the ready solubility, quality of material, accuracy of division, and general integrity of preparation, recommending their goods especially.

Edward A. Sayre (Brooklyn): Wafer-press and spring sliding-doors for show-cases. A very satisfactory mode of economizing space behind the counter.

J. C. Allan & Co. (Buffalo, N. Y.): Soluble medicated bougies.

Lazell, Marsh & Gardiner (New York): Powdered and fluid extracts, chemicals, handkerchief perfumes, pepsine, and pancreatine. An attractive display of very fine goods, over which our friend, Professor P. W. Bedford, presided.

John Wyeth & Brother (Philadelphia), exhibited a full line of their compressed tablets, embracing a large variety of formulas, officinal and otherwise.

McKESSON & ROBBINS (New York), exhibited a full line of fine chemicals, select crude drugs, essential oils, and various pharmaceutical preparations, including their gelatine pills and granules, pepsin, pancreatin, ergotin, fluid extracts, bulk handkerchief extracts. Among the chemicals were quinia and strychnia, which they are now manufacturing. Also pilocarpine, and many other rare alkaloids and principles. The crude drugs exhibited included fine samples of jaborandi, coca leaves, xanthium spinosum, fucus vesiculosus, and others. The gold medals shown indicated the success of previous and competitive exhibitions. This very handsome display reflected great credit on the taste of their representative, Mr. Henry S. Wellcome.

SEABURY & JOHNSON (New York): Medicated plasters. This house showed a complete assortment of their goods, put up and arranged with the taste characteristic of their manufacture. Among new and important additions to their list are: surgeon's rubber adhesive plaster, especially adapted for immediate use, heat or moisture not being required; camphorated blister plaster, new belladonna plaster, surgeon's isinglass plaster on muslin and silk, and a very fine article of spice plaster more delicate than mustard, and, being spread on long muslin slips, very well adapted for many cases where more serious irritation is not required.

GATES BROTHERS (Saratoga Springs, N. Y.): Samples of fourteen different mineral waters.

ANALYSES OF PHARMACEUTICAL CHEMICALS AND PREPARATIONS.

We are now prepared to send samples for the November prize to such as may desire to compete for it. Answers must be received before the 20th of October, and be accompanied by a sealed envelope containing the name of the writer, and designated by a device or motto, which is also to be placed, instead of the writer's name, upon the report of the analysis.

Persons to whom a prize has been awarded are requested to send to the publishers the title of any book or books they may desire, not exceeding in the aggregate the value of $10.00.

THE third sample contained calomel (Hg_2Cl_2) ninety-seven per cent., common salt (NaCl) two per cent., and corrosive sublimate ($HgCl_2$) one per cent.

The importance of calomel as a medicine, and the fact that it is again being much used, render it necessary that all pharmacists should understand the best methods of detecting any impurities it may contain. In the announcement, last month, it was stated that the sample was not adulterated, but contained impurities liable to be present from carelessness in manufacture. Let us see, by reference to the U. S. P., what these impurities may be. By turning to "Hydrargyri Chloridum Corrosivum," and to "Hydrargyri Chloridum Mite," we see that both processes are essentially the same, except that the "Mild Chloride" contains twice as much metallic mercury as does the "Corrosive Chloride." If now, by carelessness, the amount of mercury be too small, or the amount of salt too large, some "Corrosive Chloride" will be formed. This is a very dangerous impurity, and the pharmacopœia directs that it be removed by water-washing. If this part of the process is slighted, *as too often it is*, some of the poisonous mercuric chloride will remain.

But calomel is often made by precipitating an acid solution of mercurous nitrate ($Hg_2(NO_3)$) by saturated solution of common salt.

Here there is danger of forming mercuric salt, as the free nitric acid necessary to hold in solution the mercurous nitrate will partially change calomel to corrosive sublimate. Unless the precipitated calomel is well washed it will contain also some common salt, the presence of which is not as void of danger as might at first sight appear. By reference to the article of Mr. Corwin, in the July NEW REMEDIES,* it will be seen that cold solution of sodic chloride does form some mercuric salt from calomel. *How much* mercuric salt would be formed under varying conditions we are not certain; it is enough that *any may* be formed.

Having thus ascertained what impurities to look for, it is comparatively easy to identify them. To about fifty grains of the calomel add one fluid ounce of *cold*† *distilled* water, and digest five or ten minutes, shaking frequently. Filter. Divide the filtrate into two unequal portions. The smaller portion is tested with nitrate of silver for hydrochloric acid. If found, the calomel contained either corrosive sublimate or salt.

To the larger portion of the filtrate add ten drops of hydrochloric acid, and then treat with hydrosulphuric acid gas. If mercuric salt is present, a precipitate of mercuric sulphide (HgS) will appear, first white, then orange, brown, and black. This precipitate, unlike other "second group" precipitates, is insoluble in nitric acid, but it is easily soluble in hot nitro-hydrochloric acid.

Sometimes a slight colored residue of *sulphur* remains on the filter undissolved; this may be disregarded. The solution of mercuric chloride thus formed must be evaporated carefully to dryness to remove excess of chlorine, which interferes with some of the tests. The residue may now be dissolved in water and tested with ammonic hydrate, stannous chloride, potassic iodide, etc.

The filtrate, after removal of the mercuric sulphide, is evaporated to dryness, and tested by flame reactions for sodium, etc. Of course it is best to test for "third" and "fourth group" bases, but they are seldom present.

The U. S. P. tests for calomel are good; ammonia gives with mercuric chloride "white precipitate," or "ammoniated mercury" (NH_2HgCl); lime water and potassic hydrate precipitate from mercuric salts the yellowish red mercuric oxide. Nitrate of silver serves to detect hydrochloric acid, whether present as mercuric or sodic salt.

Calomel itself is easily identified. It is almost entirely insoluble in water, alcohol, and ether. It slowly dissolves in hydrochloric acid, and in solutions of various salts with partial change to mercuric salt. Nitric acid dissolves it rather better, forming mercuric chloride and mercuric nitrate. Nitro-hydrochloric acid is its best solvent, and quickly changes it to mercuric chloride. The most distinctive reaction for calomel is obtained by treating calomel with ammonia; if it turns instantly black, little doubt need be entertained as to its nature. The product is "chloride of di-mercurous-ammonium" (Hg_2Hg_2Cl). Potassic hydrate changes calomel to black mercurous oxide (Hg_2O). Mercurous and mercuric salts are both volatile when heated, and yield characteristic sublimates. If heated in closed tubes with carbonate of sodium or charcoal dust, they yield a gray sublimate of metallic mercury. For other reactions, see text-books. Enough has been said so that any student may identify calomel and its common impurities; it now devolves upon him to carefully test every new lot he buys, that he may be sure not to sell any that contains dangerous impurities.

The prize for the best analysis has been awarded to Mr. H. F. Meier, of Detroit—"*Ann Eliza.*"

The sample for the October analysis belongs to the preparations of the U. S. P.

State whether in your opinion it contains adulterations or impurities.

We are also now prepared to forward to applicants the November sample, which is chosen from the U. S. P. Primary Materia Medica list, and contains a common adulterant.

ANSWERS TO STUDENTS.

"*Ann Eliza.*"—Your analysis was excellent, but you ought to test your *filter-paper*, and see if you do not find in *it* traces of iron, calcium, aud sulphuric acid.

* "The Action of Certain Manipulations and Reagents on Calomel."

† *Boiling* water, as directed by the U. S. P., will form some mercuric salt. See paper of Mr. Corwin.

"*Orbiculite.*"—Alkaline impurities are likely to be overlooked. Try again; your work was correct as far as you went.

"*Junior.*"—Ether will remove mercuric chloride from calomel, but not sodic chloride. Water is cheaper and better.

"*Draco Mitigatus.*"—See reply to "Orbiculite." It is better to write ammonic hydrate NH_4HO rather than AmHO.

"*Sub.*"—Your analysis received and will be considered next month.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

Chloral Hydrate. (A. R., Trenton, N. J.)—You should only buy *crystallized* chloral hydrate. Several cases have been reported lately, in which alarming symptoms were produced by the administration of the ordinary chloral hydrate in lumps, the purity of which cannot be relied on, and which is generally more feeble in its action, but at the same time more irritating.

Proteïn. (J. H. W., New Orleans, La.)—This is a generic term for a number of nitrogenous bodies occurring in the animal and vegetable kingdom, which have a tolerably uniform ultimate composition, containing 52.7–54.5% carbon, 6.9–7.3% hydrogen, 14.4–16.5% nitrogen, 20.9–23.5% oxygen, and 0.8–2.0% sulphur. That which is usually sold in the market under this name is prepared as follows: White of egg is beaten to a foam (the object of this is to break up the fine membranous cells in which the albumen is contained), which is set aside for one day, then strained and the strained liquid mixed with moderately strong nitric acid, as long as coagulation takes place. The coagulum is collected upon a *linen* strainer, mixed and washed with water, then kneaded and washed with diluted hydrochloric acid (1% of acid), dissolved in caustic soda or potassa, and from this solution precipitated by acetic acid. The precipitate is transferred to a strainer, washed, dried in a lukewarm place, rubbed to powder, and preserved in well-closed flasks. It forms a yellowish, tasteless, and odorless powder.

Battley's Sedative. (J. B., Terre Haute, Ind.)—Battley's sedative solution of opium, or *liquor opii sedativus*, is a nostrum which has been extensively used for many years. Its composition and mode of preparation have not been made public, but it is believed to be made by evaporating a cold aqueous solution of opium at a low temperature, redissolving the residue in distilled water, and again evaporating; then diluting the extract thus formed with water. The strength of the liquor is made about equal to that of laudanum, or perhaps a little stronger. Some formularies give the following:

Extract of opium, aqueous	3 troy oz.
Distilled water, boiling	30 fl. oz.
Alcohol	6 fl. oz.
Cold water, sufficient to make	40 fl. oz.

Dissolve the extract in the hot water; when cold, add the alcohol and enough cold water to make it measure 40 fl. oz., and filter. Dose, 10 to 30 drops.

Cod-Liver Oil and Phosphate of Lime. (M. S., Albany, N. Y.)—All mixtures of cod-liver oil with phosphate of lime are mechanical, and will separate at some time or other, any assertion to the contrary notwithstanding. We have also made a number of experiments, and find that freshly-precipitated calcium phosphate, made by double decomposition from calcium chloride and sodium phosphate, in presence of a little ammonia soap, will form a tolerably stable mixture with cod-liver oil, by the aid of "glyconine." We can recommend the following:

Calcium phosphate	512 grs.
Ammonia, water of, } Hydrochloric acid, }	q. s.
Cod-liver oil	10 fl. oz.
Glyconine	14 fl. drchs.

Dissolve the calcium phosphate, mixed with a quart of water, by means of the hydrochloric acid, and precipitate it with ammonia. Transfer it to a linen strainer, and allow it to drain, but do not wash it more than once. If you employ directly the precipitate from calcium chloride and sodium phosphate, you will succeed even better than when employing the re-precipitated phosphate. The proportions theoretically required are:

$Na_2HPO_4, 12H_2O$	+	$CaCl_2, 6H_2O$	=	
Cryst. Sodium Phosphate	+	Cryst. Calcium Chloride	=	
358	+	219		
$=CaHPO_4, 12H_2O$	+	$2NaCl$	+	$6H_2O$
=Calcium Phosphate	+	Sodium Chloride	+	Water
352	+	117	+	108

but it has been found that a uniform salt is more certainly obtained by employing a great excess of calcium chloride. The actual proportions, therefore, to prepare the 512 grains of calcium phosphate required are: 520 grains of cryst. sodium phosphate and 638 grains (double quantity), of cryst. calcium chloride. As soon as the calcium phosphate has drained, mix it with water to measure 3½ fl. oz., add to it 2 fl. drachms of water of ammonia (and 2 fl. drachms of a flavoring essence, if desired), and 14 fl. drachms of glyconine. Then add the cod-liver oil in portions, shaking after each addition, until the emulsion is complete. The main point is, to employ the calcium phosphate in a pulpy state, before it has shown signs of granulation or crystallization, and to have some free ammonia present, to form a small quantity of ammonia soap.

Chlorodyne. (J. B., Terre Haute, Ind.)—The same introduction might apply to this as we gave in the case of Battley's sedative. The composition is not exactly known, but the following formula has been devised as a good substitute, and adopted by the Am. Pharm. Association (see *Proceed.*, Vol. 22, p. 338):

Purified chloroform	4 fl. oz.
Stronger ether	1 "
Stronger alcohol	4 "
Molasses	4 "
Extract of liquorice, powd.	2½ troy oz.
Morphia hydrochlorate	8 grains.
Oil of peppermint	16 minims.
Syrup	17½ fl. oz.
Hydrocyanic acid, 2%, U. S. Ph.	2 "

Dissolve the morphia and oil of peppermint in the alcohol; mix the chloroform and ether with this solution. Mix the liquorice with the syrup and the molasses. Shake these two mixtures well together, and lastly add the hydrocyanic acid, and again shake well.

Dose: 5 to 10 minims, or 10 to 20 drops. Shake the vial well before pouring out a dose.

Warburg's Tincture. (Same)—The formula of this was published in our January number for 1876. It is too long to be reproduced here.

Amber Lac. (F. U. W., Glen Cove, L. I.)—Those qualities of amber which are unfit for being worked up into ornamental articles are used for preparing *oil of amber* (oleum succini), *succinic acid*, and *amber varnish*. The succinic acid is prepared by heating amber in retorts to 280°, when the acid and volatile oil are carried into the receiver, forming a brown acid liquid covered by an oily layer. *Amber resin* remains in the retort. The acid and oil have to be purified before being fit for use. The brownish black resin, which is left as a residue, is insoluble in ethereal and in fixed oils, but may be made into a dark-colored varnish

by melting it, under exclusion of air, over a slow fire, with an equal weight of pure linseed oil, and diluting the mass, after cooling, with sufficient oil of turpentine, to give it the proper consistence. This forms the ordinary amber-varnish. Amber-lac, which is a clear, limpid, pale straw-colored liquid, is prepared in precisely the same manner—only, instead of amber-resin, clear, fine pieces of virgin amber are employed. Amber-varnish for photographers is prepared by covering 1 part of powdered amber, in a bottle, with 8 parts of chloroform, shaking frequently, and filtering after 24 hours. This varnish, which is applied cold, dries rapidly, and becomes so vitreous and transparent that it can hardly be distinguished from the glass. In the city of Elbing, not far from the shores of the Baltic, 45 miles W.S.W. of Dantzic, not less than 60,000 pounds of amber are worked up annually into varnish alone.

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THIS work is so miscellaneous in its character that we can do little better than first give an idea of its contents. It gives, as an introduction, the Hippocratic oath. Then follow forty pages devoted to general information for the practitioner, including tables of weights and measures, an alphabetical list of medicines, with their degrees of solubility in water, alcohol, ether, glycerine, etc.; list of abbreviations, etc. Nearly 200 pages are next given to therapeutic and practical hints, and embrace rules for diagnosis, posological tables, baths, pharmacopœial groups of medicines, very complete tables of incompatibilities, rules for prescribers, obstetric memoranda, directions for urinary analysis, poisons and their antidotes, resuscitation of asphyxiated persons, disinfectants and their uses, etc. The next section, of forty pages, contains dietetic rules and precepts, and complete directions for conducting post-mortem examiations finish the work.

A great deal of pains has evidently been taken to collate items of information which every physician is presumed to know about, but which very few persons could possibly retain in their memory, and there is no doubt that the work will be a very valuable one, in one way or another, for any person who may have the good fortune to possess it.

AN INDEX OF DISEASES AND THEIR TREATMENT. By THOMAS HAWKES TANNER, M.D., F.L.S. Second edition, revised by W. H. BROADBENT, M.D., etc. Philadelphia: Lindsay & Blakiston, 1877. 8vo, pp. 432. Price, $3.00.

THIS, like the preceding, has been issued as a ready help in the daily work of a busy physician, but varies considerably in its scope, as indicated in the title. Nearly half the work is occupied with the index of formulæ and the sections relating to climate and mineral waters. All the writings of Dr. Tanner are remarkable for their eminently practical character, and this one exemplifies the trait in a remarkable degree. It would have been well, perhaps, if the work had undergone revision by an American editor before being republished here, so as to eliminate or direct attention to instances where the formulæ of the British Pharmacopœia differ from our own, and to modify the section on climate and mineral waters so as to adapt them better to our wants on this side of the Atlantic. These last named features do not appear, however, to be an objection of much importance, since the work is in active demand.

THE ANNUAL ANNOUNCEMENT of the Department of Medicine and Surgery of the University of Michigan for 1877 and 1878.

"By the advice of the Faculty, the provision of the Legislature, and the action of the Board of Regents, the course of instruction commencing October, 1877, will be extended to *nine* months, instead of six months, as formerly," due allowance being made for students already matriculated. The announcement of this next session contains many features which distinguish its course from those of other schools in this country. With the Harvard University and the University of Pennsylvania, it is at the advance in medical education, and we cordially recommend those who contemplate the study of medicine to send for a prospectus to the "Dean of the Medical Faculty, Ann Arbor, Mich.," before coming to the definite choice of a school.

THE AMERICAN MEDICAL ASSOCIATION AND THE UNITED STATES PHARMACOPŒIA: A Reprint of the Pamphlets of Dr. H. C. Wood, Mr. Alfred B. Taylor, The Philadelphia County Medical Society, and the National College of Pharmacy; with a Rejoinder addressed to the Professions of Medicine and Pharmacy of the United States. By EDWARD SQUIBB, M.D., of Brooklyn. Privately published, 8vo, pp. 157.

THE opponents of Dr. Squibb can certainly not deny that he is a generous foe, nor complain that their arguments are garbled. The pamphlet opens with an introductory of four pages reviewing the question at issue. Any one who reads it will be likely to acquire an interest in the well written manifestoes that follow. The "rejoinder" referred to was the report which the American Medical Association appointed Dr. Squibb to prepare, and then, at its session in June, concluded not to hear. As reference was made at the time of the meeting to the speeches of Drs. Wood and N. S. Davis, and but brief reports were given of their tenor, we may, perhaps, be excused for quoting here Dr. Squibb's version of the remarks made by the latter, as indicating the impression made by that august body—the American Medical Association—upon such men as the writer:

"The main point of Dr. Davis' brief address seemed to be that the Association should take up no subject like this which threatened to disturb the harmony of its action by the introduction of elements of discord, involving money values and entangling alliances. The Association was of a rather social character, and met for the discussion of scientific subjects, from year to year, in a friendly, pleasant way that was incompatible with such subjects as this, except so far as to see that somebody else attended to them properly."

The pamphlet concludes with the opinion of legal counsel upon the question of property and copyright, which will be a refractory nut for our Philadelphia friends to crack, so we opine.

MEDICINAL PLANTS: being Descriptions, with Original Figures of the Principal Plants employed in Medicine, and an Account of their Properties and Uses. By ROBERT BENTLEY, F.L.S., etc., and HENRY TRIMEN, M.B., F.L.S., etc. $2.00 per part.

SINCE our notice in February of Parts 6 and 7 of this admirable work, we have received from Lindsay & Blakiston, of Philadelphia, the American publishers, Parts 8, 9, and 10. We have already expressed our satisfaction with the character of this publication, and will here add that, aside from the value of the illustrations, the text is fresh and comprehensive. There are few, if any, persons more conversant with the present state of our knowledge regarding Materia Medica than the authors of this series, and on its completion it will be one of the most complete available works of the sort.

The contents of these parts is as follows:

PART 8: *Althæa officinalis, Balsamodendron Opobalsamum, Exogonium Purga, Nicotiana Tabacum, Ricinus Communis, Pinus Larix, Canna edulis.*

PART 9: *Cisampelos Pareira, Podophyllum peltatum, Cistus Creticus, Geranium maculatum, Polygonum Bistorta, Myristica fragrans, Curcuma longa, Vanilla planifolia.*

PART 10: *Viola odorata, Cinnamodendron corticosum, Krameria triandra, Krameria Ixina, Toluifera Pereiræ, Tamarindus Indica, Valeriana officinalis, Hyoscyamus niger.*

NURSE AND PATIENT and CAMP-CURE. By S. Weir Mitchell, M.D. [Reprinted from Lippincott's Magazine.] Philadelphia: J. B. Lippincott & Co. 1870. 12mo, pp. 73.

NOTHING which the author of these papers chooses to write goes unread, and these articles have apparently met with such favor as to warrant their separate publication. The first one of the two is an earnest protest against the habit, only too common, of persons undertaking the care of nursing severe cases of illness in their own families without adequate knowledge of what is best to be done, of the risks they run, or of the needs of the patients. The second relates to the value of residence in woods and among unfrequented lakes, streams, and mountains (or in some degree a return to barbarism), to those whose life in cities during the greater part of the year subjects them to the exhaustion of nervous and other functions. It is quite evident that the author has written *con amore*, for his word-pictures of wood life and scenes on the shores of the great lakes go beyond what is required in the presentation of mere therapeutical measures.

CORPULENCE: TREATED WITHOUT STARVATION; OR, HOW TO GET LEAN. By M. M. GRIFFITH, M.D. Parsons, Luzerne Co., Pa. (second edition): 1877. Sq. 12mo, pp. 79. Price, 50 cents.

A COMPILATION of the information relating to obesity to be found scattered through medical literature, prefaced by the physiology of nutrition, and followed by directions for the management of cases of excessive fatness. The author having himself been a subject of this complaint, takes a strong personal interest in the subject, and, therefore, gives us a very valuable and useful little work. *Fucus vesiculosus* (bladder-wrack) is recommended as a remedy in this condition.

LECTURES AND ESSAYS. By VIRGIL W. BLANCHARD, M.D. Published by the Blanchard Food-Cure Co., 27 Union Square, N. Y.

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Wurtz (Ad.). Agenda du chimiste. 12mo, pp. 262. Paris: Haschette et Cie.

PRESCRIPTIONS AND FORMULÆ.

Standard Formulæ for Certain New Preparations.

(Continued from page 254.)

48. *Alcoholic Extract of Podophyllum*, improperly called *Podophyllin.*

The leaves and stems of the May-apple, *Podophyllum peltatum*, are used, in powder, in doses of 0.25–0.60 gm. (4 to 10 grains). Alcohol of 90 per cent. extracts from them a resinous matter of a yellowish green color, which has been improperly named podophyllin. To obtain it pure, the alcoholic tincture is precipitated by water. [The water should be acidulated with hydrochloric acid in order to throw down, with the resin, the hydrochlorate of berberina; otherwise the product is of a blackish brown color.—See, however, Power's paper, page 278.

49. *Solution of Potassium Silicate* (for surgical purposes).

Potassium carbonate, purified, 78 degrees* of alkalimeter	36 gms.
White Fontainebleau sand, fine and dry.	63 "

The two substances are mixed and heated to a white heat in an elliptical reverberatory furnace for 4 hours. The resulting glass is transparent, very homogeneous, colorless, or at most only light amber colored.

To prepare the officinal solution of this salt, the glass is coarsely powdered and introduced, together with a quantity of water sufficient to produce a solution of the density 33–35° Baumé (spec. gr. 1294–1318), into an iron digester, capable of bearing a very high pressure. The water employed must be as pure as possible, and especially free from lime, to prevent the formation of calcium silicate, which would render the product turbid and opalescent. The potassium silicate is entirely dissolved, and the solution should have the above-indicated density.

50. *Quinia Ferrocyanhydrate (Ferrocyanide).* $(C_{20}H_{24}N_2O_2)_2H_4FeCy_6, 4H_2O=864$.

Quinia sulphate	4 parts.
Potassium ferrocyanide	1 part.

Agitate the quinia sulphate in a flask with enough distilled water to make a clear solution, when boiled; add to it the ferrocyanide of potassium in concentrated solution, boil the mixture for a few moments, and allow it to cool. Quinia ferrocyanide is deposited as a resinous mass. The mother-liquor, by concentration, yields a further quantity of the salt, and the whole product is purified by washing it once or twice with warm water.

The compound may be obtained in small crystals by repeatedly dissólving the amorphous product in boiling alcohol and allowing the solution to evaporate spontaneously. It forms a yellow salt, amorphous, or in small needle-shaped masses, scarcely soluble in water, but very soluble in alcohol, especially when hot. It effloresces in the air. Its solution must not be precipitated by barium chloride. Ignited in the air for a long time, it should leave a residue of ferric oxide free from any soluble salt of potassium.

51. *Basic Quinia Bromhydrate.* $C_{20}H_{24}N_2O_2$, HBr, H_2O =423.

Quinia sulphate, basic	10 grms.
Barium bromide, dry	3.40 "
Distilled water	100 "

Mix the quinia sulphate with 80 gms. of water, boil, add the barium bromide dissolved in 20 gms. of water, filter, evaporate, and crystallize.

The salt forms white, silky tufts of needle-shaped crystals, is soluble in about 60 parts of cold water, very soluble in warm water, and must give no precipitate with soluble sulphates [absence of barium].

* Of which 4.807 gms. saturate 78 c.c. of a diluted sulphuric acid, made by diluting 50 c.c. standard (volumetric) sulphuric acid with water to 100 c.c.

One gramme of the salt is entirely precipitated by 0.401 gm. of silver nitrate.

52. *Neutral Quinia Bromhydrate.* $C_{20}H_{24}N_2O_2$, 2HBr, $3H_2O$=540.

Quinia sulphate, basic	10 grammes.
Diluted sulphuric acid (1:10)	11.2 cub. centim.
Barium bromide, dry	6.8 grammes.
Distilled water	75 "

Dissolve the quinia sulphate in 50 gms. of water with the aid of the dil. sulphuric acid, and the barium bromide in 25 gms. of water. Mix the two solutions, boil a few moments, and filter. The filtrate, evaporated to 35 grammes, and cooled, gives handsome prismatic crystals, soluble in 7 parts of cold water, very soluble in boiling water and in alcohol. It must give no precipitate with soluble sulphates [absence of barium].

One gramme of this salt is entirely precipitated by 0.629 gm. of silver nitrate.

53. *Quinia Tannate.* $C_{20}H_{24}N_2O_2(C_{27}H_{22}O_{17})_2$=1560.

Quinia acetate, in neutral solution, q. s. Add to this a solution of gallo-tannic acid (tannin from galls), deprived of resinous matters, in quantity sufficient to entirely redissolve the white mass of quinia tannate, which is first formed.

Neutralize this solution exactly with sodium bicarbonate, which precipitates, in proportion as the acidity of the solution lessens, all the quinia tannate. Collect the product on a filter, allow it to drain, and let it dry by exposure to the air. When dry, powder it, and wash it upon a filter with distilled water; then dry again.

Quinia tannate is amorphous, pulverulent, and white. When prepared from the sulphate it persistently retains a certain amount of sulphuric acid. Prepared as above, it contains 20.6 per cent. of quinia. 3.5 parts of quinia tannate contain as much quinia as 1 part of the sulphate.

54. *Alkaloidal Soaps.*

These compounds, which are almost insoluble in water, are generally prepared by double decomposition. An aqueous solution of medicinal soap, as neutral as possible, is mixed with a concentrated and neutral solution of the chlorhydrate (muriate) of the alkaloid, until the latter solution ceases to be precipitated or clouded by further addition of soap-solution. The precipitate is collected, washed, and dried with a gentle heat.

This mode of preparation is preferable to a direct union of the alkaloid and fatty acids, because the latter method yields a less definite product.

55. *Metallic Soaps.*

Metallic soaps (oleomargarates of metals) are obtained by double composition. A watery solution of a metallic salt is added to a neutral aqueous solution of medicinal soap, until no more precipitate is formed. This is collected on linen and strongly expressed.

Soluble metallic sulphates may be used to prepare a great number of these compounds (oleomargarates of iron, copper, zinc, etc.).

Mercury-soap is produced by employing the mercuric nitrate dissolved in a little water acidified with nitric acid, or mercuric acetate.

56. *Sodium Hypophosphite.* NaH_2PO_2=88.

Calcium hypophosphite	10 parts.
Sodium carbonate, cryst	16 "

Dissolve the two salts separately in lukewarm water, and mix the two solutions, taking care that there be finally no excess of either salt present. [The clear filtrate must not give a precipitate with ammonium oxalate—absence of lime; and must not effervesce on addition of hydrochloric acid—absence of a carbonate]. Filter from the precipitated calcium carbonate, wash the latter, and add the washings to the filtrate. Concentrate these on a water-bath at a temperature of 60° C. (140° F.) to avoid explosion. The dry residue must be preserved in tight vessels.

Sodium hypophosphite is a white, amorphous, or crystalline salt, deliquescent, soluble in 2 parts of water and in 15 parts of 90 per cent. alcohol. It possesses the characteristics of the hypophosphites and of sodium salts. It must not effervesce with acids, nor be precipitated by barium chloride, or by sulphates. Oxalic acid produces no cloudiness in its solution.

57. *Sodium Lactate.* $NaC_3H_5O_3$=112.

Sodium bicarbonate	q. s.
Lactic acid	q. s.

Dilute the acid with 3 parts of distilled water, heat to boiling, and saturate with sodium bicarbonate; then evaporate and pour it into forms to solidify.

A very deliquescent salt. The solution, evaporated to a syrupy consistence, deposits flattened prismatic crystals and star-shaped groups of needles.

58. *Neutral Sodium Sulphite.* Na_2SO_3, $7H_2O$=248.

Prepare a concentrated solution of pure crystallized sodium bicarbonate (1 part of salt to 2 of water); divide it into two equal parts, saturate one part with sulphurous acid gas until the latter ceases to be absorbed. Add the reserved half to this, and boil to expel the excess of gas. The solution now contains an entirely neutral sulphite, which is obtained in crystals by evaporation. The salt must be kept protected from the air. It forms oblique rhomboidal prisms, is very soluble in water, most at 33° C. (91.4° F.). Above this temperature it deposits crystals of neutral anhydrous sulphite. Its solution, if slightly alkaline, slowly oxidizes in the air. 100 c.c. of a solution containing 1.26 gm. of the pure salt in a litre, mixed with starch-paste, absorb 10 c.c. of a solution of iodine, containing 12.7 gm. per litre, before exhibiting a persistent blue color.

59. *Sodium Sulphovinate.* $NaC_2H_5SO_4$, H_2O=166.

Prepare first the sulphovinic acid by pouring very gradually, and in small quantities at a time, under constant stirring, 1,000 grammes of sulphuric acid, spec. gr. 1706, into 1,000 grammes of alcohol of 96 per cent. Let the mixture stand several hours, then dilute with 4 litres of distilled water, and saturate the liquid with pure barium carbonate. Allow the barium sulphate to settle and filter. The filtrate, being a solution of barium sulphovinate, is decomposed by a solution of sodium carbonate, until no more precipitate is formed. The clear filtrate is evaporated so as to form crystals, which are purified, if necessary, by recrystallization. The crystals must be kept in well-stoppered vials. The above proportions yield about 1,000 grammes of the salt.

Sodium sulphovinate crystallizes in hexagonal tables; it has a slightly unctuous feel, is very soluble in water and alcohol, and when heated in a capsule to 120°C. (248° F.), it disengages alcohol. It is almost free from bitterness, should have no acid taste, and must contain no sulphate, which may be ascertained by its not being precipitated by barium chloride, and must be free from traces of barium, which is shown by its failure of reacting with soluble sulphates. If either of these impurities are present, it should be rejected.

60. *Zinc Phosphide* (Zn_3P_2 = 257).

A tubulated stone-ware retort is charged to one-fourth of its capacity with pieces of pure distilled zinc, placed into a furnace and through the neck a current of dry carbonic acid gas is passed. Its tubulure is closed with an imperfectly fitting stone-ware stopper, to permit the escape of CO_2. Heat being applied, as soon as the zinc boils, small pieces of dry phosphorus are from time to time dropped in through the opening, the stopper being instantly replaced after each addition. From time to time the crust of phosphide of zinc formed must be broken up with an iron rod, in order to expose new metal to the action of phosphorus. Finally the retort is strongly heated, so as to cause the remaining uncombined zinc to melt together at the bottom. The mass is removed, the phosphide of zinc reduced to fine powder, and the metallic zinc reserved for another operation. Any pieces which do not powder easily must be removed, as the compound is the more brittle, the closer it approaches in composition to the formula Zn_3P_2. In this condition it resembles reduced iron, and no other sort should be used. It is completely soluble in hydrochloric acid.

Phosphide of zinc crystallizes in right-angled prisms with

rhombic base and of metallic lustre. Its density is 4.72. It is very friable, slate-colored when powdered, and unalterable in air. Dilute hydrochloric, sulphuric, and tartaric acids decompose it, producing the corresponding zinc salts, and causing the disengagement of gaseous phosphoretted hydrogen (PH_3).

It is administered in pills containing 8 milligrammes (0.008 gm.) of the compound, representing 1 milligramme (0.001 gm.) of active phosphorus.

61. *Picrotoxin* ($C_5H_8O_2 = 98$).

The powdered berries of Cocculus Indicus are twice treated with boiling alcohol, to exhaustion. The alcohol is recovered by distillation, and the residue is boiled with water. To the boiling solution a small quantity of lead acetate is added, to precipitate the coloring matter. The liquid is rapidly filtered and the excess of lead in the filtrate is removed by sulphuretted hydrogen. The liquid is again filtered while still warm, and evaporated, when the greater part of the picrotoxin is deposited. It is purified by crystallization from boiling water.

This substance, which is not an alkaloid, appears in form of white prismatic needles, odorless, but of an insupportably bitter taste. It is soluble in 150 parts of cold, and in 25 parts of boiling water; in 3 parts of strong alcohol, and in 2½ parts of ether. Sulphuric acid colors it saffron-red. It does not evolve ammonia, when heated with fixed alkalies (absence of nitrogen), and leaves no residue on incineration.

Mistura Glycyrrhizæ Composita. (Ch. R.) (Brown Mixture, which deposits no sediment).

Fluid extract of liquorice	2 fl. oz.
Glycerine	4 "
Syrup	6½ "
Tr. opii camphor	2 "
Vin. antimonii	1 "
Spts. ætheris nitros	½ "

Mix the glycerine and fluid extracts; then mix the last three liquids, add the two mixtures together, and lastly the syrup. This mixture is dichromatic, appearing brown and opaque by reflected light, but clear and reddish by transmitted light.

Ricord's Cough-Pills.

Morphiæ hydrochloratis	gr. v.
Extracti hyoscyami	" viii.
Rad. belladonnæ pulv.,	
Rad. glycyrrhizæ pulv.,	
Mellis	ää " xlv.
Balsami tolutani,	
Ol. theobromæ	ää " lxxv.

Make into 100 pills. Each contains $\frac{1}{10}$ grain of hydrochlorate (muriate) of morphia.

Dose: One pill every 5 or 6 hours in chronic bronchitis, accompanied with cough.

Tinctura Physostigmatis ætherea. (Hager).

Extract of calabar, 10 parts, are mixed with 2 parts of magnesium carbonate, the mixture is dried with a gentle heat, powdered, and macerated for 2 days with 60 parts of pure ether. The ethereal filtrate, amounting to about 50 parts, is diluted to 100 parts with dilute alcohol. It should be protected from the light.

This tincture contains mainly physostigmine and only traces of calabarine. (See NEW REM., vi., 163.)

Remedy for Bromine Acne.—*The Doctor* says that a patient in St. Bartholomew's Hospital, who has bromine acne as a result of taking half-drachm doses of bromide of ammonium to stop her epileptic fits, has been relieved of the acne by the use of the following lotion:

℞ Sulphuris precip.	℥ iij.
Spir. camphoræ	ʒ j.
Aquæ calcis ad.	f ʒ iij.

Fiat lotio.

Mr. J. A. Wanklyn has been appointed Lecturer on Chemistry and Physics at St. George's Hospital, in London, in place of Dr. Nood, who has lately died.

NEW PATENTS AND LAWS.

[*We will furnish gratis, to subscribers, any information relating to new patents which can be obtained from the Official Gazette of the Patent Office; and for 50c. will give copies of the drawings of such as are illustrated. Electrotypes of the illustrations contained in* NEW REMEDIES *will be furnished for 50c. per square inch.*

TRADE-MARKS REGISTERED IN U. S. PATENT OFFICE.

Certificates dated July 3, 1877.

Medicinal Preparations.

4,798. O. Ellison, Ironton, Ohio. The figures of the mule and lion, and the words and figures "Eclesiastes, chap. 9, verse 11."

4,810. Victor E. Mauger, New York, N. Y. The representation of a star containing a monogram composed of the letters A. S. C.

4,819. Theodore Curran, Newark, N. J. A circular device bearing within concentric circles the words "Tanner's German Ointment, Jordan, N. Y.," and the figures 1849, and within the inner circle the representation of the head and bust of a man, the whole printed in red ink on a white ground; and second, of a representation of an American eagle holding in its beak a ribbon with the motto "E pluribus unum," and in its talons a bundle of arrows, etc.; and also of the fac-simile of the signature "John F. Tanner."

4,820. John Linden, Cleveland, Ohio. The figure of the hand holding the surgical instrument known as "John Linden's Improved Resuscitator," and the representation of the vial, the same being used in connection with the words "J. Linden's Improved Oleum Baunscheidtii," which are inscribed on said vial.

4,832. George Dales, Bloomville, N. Y. The word-symbol "Brandin." (Salve.)

Soap.

4,818. Theodore Curran, Newark, N. J. The anchor and the letters "S" and "T."

Paints.

4,807. Heath & Milligan, Chicago, Ill. The word-symbol "Magnetic."

Certificates dated July 10, 1877.

4,834. Bussing & Haddon, New York, N. Y. The word-symbol "Imperial." (Concentrated lemonade.)

4,835. Cornwall & Brother, Louisville, Ky. A representation of a star surmounted by a crescent. (Soap.)

4,836. Albert C. Emerick, Toledo, Ohio. The word-symbol "Sapopolitum." (Cleaning compound.)

Certificates dated July 17, 1877.

Medicinal Preparations.

4,840. J. S. Burdsall, Cincinnati, Ohio. The word-symbol Phosphorene. (Preparation for destroying vermin.)

4,849. J. A. Heintzelman, Philadelphia, Pa. The facsimile signature of the same.

4,872. Dr. Hubbard & Co., Louisville, Ky. The picture of an open medicine case.

4,876. Caswell, Hazard & Co., New York, N. Y. The representation substantially as shown on said facsimile, of men engaged in the manufacture of cod-liver oil near the sea, and of a vessel sailing upon the sea.

4,879. A. J. Laubach & Co., Philadelphia, Pa. The fanciful word-symbol "Eclectic." (Liniment.)

4,897. Jules Houriet, Terre Haute, Ind. The word-symbol "Swiss."

4,903. Dr. D. Jayne & Son, Philadelphia, Pa. The name "D. Jayne" in the form of a water-mark.

4,904. Coussens & Tabler, Nashville, Tenn. The mono-

gram composed of the letters and character "C. & T.," and the fac-simile of the signature of "J. N. Tabler, M.D."

4,908. William L. Keller, Baltimore, Md. The word-symbol "Roman" in connection with the word "Liniment."

4913. William M. Olliffe, New York, N. Y. The figure of a Maltese cross with the letters O. L. L. F. F. E. running in a perpendicular manner through the centre thereof, and also at right angles thereto, having a human eye in the centre.

4,914. James D. Thorndike, Boston, Mass. The word-symbol "Vitalizer," and the letter "V," with the letters "italizer" upon one of its sides.

4,915. George J. Wenck, New York, N. Y., assignor to Margaret E. Wenck, same place. The word-symbol "Wenck's Liebig's."

4,917. Dundas Dick, New York, N. Y. The words "Soft Capsules."

4,918. Nathan F. Philo, Crescent, N. Y. The arbitrarily selected word "Mohawk." (Cough syrup.)

4,920. Henry A. Tilden, New Lebanon, N. Y. The word-symbol "Diptherine."

Paints, Oils, etc.

4,842. J. H. Chadwick & Co., Boston, Mass. The word-symbol "American Mine" used in connection with the word "White."

4,846. Haas Brothers, San Francisco, Cal., and New York, N. Y. The word-symbol "Safeguard." (Refined petroleum.)

4,846. The same. The word-symbol "Popular."

4,858. Willman, Peck & Co., San Francisco, Cal. The word-symbol "Bonanza." (Petroleum.)

4,906. Eckstine, Hills & Co., Cincinnati, Ohio. The word-symbol "Phœnix," and the representation of the phœnix.

Soap.

4,868. Cornwall & Brother, Louisville, Ky. The word-symbol "Dublin."

4,892. Robinson Brothers & Co., Boston, Mass. The word-symbol "Giant."

4,919. Proctor & Gamble, Cincinnati, Ohio. The word "White" displayed in ornamental characters upon a blue ground.

Perfumes and Cosmetics.

4,854. Willard E. Masten, Albany, N. Y. The word-symbol "Capital City."

4,873. Caswell, Hazard & Co., New York, N. Y., and Newport, R. I. The word-symbol "Lotus Balm," arranged substantially as shown in said facsimile, and a representation of palm-trees and pyramids, etc.

4,875. The same. A shield colored red and blue, and having diagonally across it a white band, and upon its field a golden *fleur-de-lis*, and a golden musk-deer's head, said belt, the motto "Labor omnia vincit," said pestle and mortar, and the figures 1780.

4,877. The same. The word-symbol "Philocome" and the representation substantially as shown in the accompanying facsimile, consisting of the parts of the general trade-mark commonly used by the firm, etc., etc.

4,878. Howard, Sanger & Co., New York, N. Y., assignors of one-half their right to F. R. Arnold & Co., same place. The facsimile signatures of Howard, Sanger & Co. and F. R. Arnold & Co. upon the border, and "Flll Senes" near the bottom.

4,882. Alfred B. Taylor, Philadelphia, Pa. A symbol representing the United States quarter-dollar, the same being used in connection with the words "Twenty-five Scent Cologne."

LABELS.

Certificates dated July 3, 1877.

1,105. "Compound Glycerite of Carbolic Acid and Camphor." R. B. Ferguson, Washington, D. C.

1,107. "Prof. Shaw's Chiropodin, or Perfumed Foot Powder." Little & Shaw, New York, N. Y.

1,108. "Heath & Milligan Perfect Green." Heath & Milligan, Chicago, Ill.

Certificates dated July 10, 1877.

1,109. "Ceylon Balsam." L. H. Colborne & Co., New York, N. Y.

1,110. "No. 4,711 Eau de Cologne." Fritz W. Fuchs, Hoboken, N. J.

1,111. "A Sanitary Measure to Prevent Disease." Gross Brothers, Milwaukee, Wis.

1,112. "S. H. Kennedy's Concentrated Extract of Pinus Canadensis." Simon H. Kennedy, Omaha, Nebraska.

Certificates dated July 17, 1877.

1,117. "Richard L. Brown's Horse Eye-Water." Richard L. Brown, Rockville, N. C.

1,121. "The Stock Liniment." Painter & Calvert, San Francisco, Cal.

PATENTS.

Patents granted July 3, 1877.

Adhesive substance, Long & Drake	192,773
Bath apparatus, shower, H. J. Bailey	192,728
Coloring fruits and vegetables, Lecourt & Guillemare	192,771
Crucibles and pots, apparatus for molding, R. Taylor	192,604
Dental plugger, R. B. Donaldson	192,746
Dentist's chair, E. Burritt	192,809
Electrode for electrical bath-tubs, G. M. Schweig	192,601
Hog-cholera compound, R. E. & F. M. Madison	192,590
Oil-can and package for carrying fluids, G. T. Hunsaker	192,581
Refining and aging alcoholic liquors, apparatus for, G. Clark	192,635
Sheep-wash, W. Little	192,587
Stop-cock for elastic and flexible tubing, R. Lapham	192,584
Tonsorial compound, W. Clark	192,565

Patents granted July 10, 1877.

Beer and other casks, device for tapping, J. Felbel	192,908
Beverage, table, J. J. Rogers	192,038
Bottles, etc., in cases, packing, E. Vorster	192,956
Can for fluids, W. McClave	193,016
Exercising machine, I. W. McGaffey	192,836
Mucilage-holders, stoppers for, S. S. Newton	193,023
do do do	193,024
do do do	193,025
Oil-can, W. T. McNally	193,017
Toilet articles, receptacle for, J. Vernon	193,058

Patents granted July 17, 1877.

Bottle-stopper, A. E. Rich (re-issue)	7,797
Dental engine, hand-piece, G. W. Tripp	193,300
Dyeing yarn and fabrics in aniline black, W. J. S. Grawitz	193,158
Faucets, lining for, W. Cleaveland	193,111
Lubricating compound, J. H. Pitt	193,280
Oil-can, W. H. Bartels	193,212
Oil-can, J. Fleming	193,114
Saddle-bags, physicians', Suter & Furney	193,288
Soap, machine for cutting, Chandler & Boesch	193,223
Vaccinating instrument, T. S. Brinkerhoff	193,076

Tar-water.—In order to render tar more soluble, and more manageable in making tar-water, M. Magnes Lahens recommends that it be first mixed with pine saw-dust.

ITEMS.

College of Pharmacy of the City of New York.—The Forty-eighth Annual Session of this College will be inaugurated on Monday, September 24, 1877, at 7 P.M., and will continue until March 8, 1878. During the past summer the collections of the College have been overhauled and augmented, large additions have been made to the library and to the stock of apparatus, and arrangements are pending which promise to make the collection of Materia Medica and the Herbarium one of the most complete of the country, so far as medicinal products are concerned. The laboratory has also received its share of new utensils and apparatus, and this department of the College deserves particular attention on the part of the students, as a knowledge of analytical chemistry will be required at the examination.

For the benefit of those who are interested, we wish to say that all colleges are gradually but steadily raising the standard of knowledge demanded of a graduate, and that this college will rigidly demand of each candidate not merely a good theoretical knowledge of chemistry, pharmacy, botany, and materia medica, but, in addition, such practical skill and knowledge as will justify the College in certifying to the candidate's competency in compounding prescriptions.

The second year's students should immediately, at the beginning of the course, arrange quizz-classes among themselves. A general quizz, by means of written answers to proposed questions, will probably be arranged by one of the trustees; further information of this will be furnished at the College.

Obituary.—Died, on July 17th, at Thusis, Canton Graubünden, Switzerland, Prof. Dr. August *Husemann*, at the early age of 44 years. He was educated as a pharmacist, but afterwards devoted himself exclusively to chemistry, in which he soon distinguished himself. Besides many papers contained in various journals and transactions, he edited the main portion of the supplement to Gmelin's Chemistry, wrote an excellent manual of chemistry, and published, in connection with his cousin, Dr. Theodor Husemann, of Göttingen, the well-known work: "Pflanzenstoffe, in chemischer, physiologischer, pharmakologischer und toxikologischer Hinsicht," which is a storehouse of information indispensable to chemists, pharmacists and physicians.

Davyum, a new Element.—Mr. Sergius Kern has announced the discovery, among platinum-residues, of a new metal, which appears to occupy a space between molybdenum and ruthenium, and to which the discoverer has given the name of *davyum*, after Sir H. Davy. It is, however, remarked by some of our contemporaries, that Mr. Kern's statements not unfrequently require confirmation, and hence, it will be wise for chemists to await further developments in reference to *davyum*, before "staking their davy on it."

Glass-wool is made up of finer filaments than any animal or vegetable fibres known, the diameter of its fibres measuring only 0.0004 to 0.0056 *millimetres*. It forms an excellent filtering material, but it should be freed, by means of acid, from the sulphur it contains in form of sulphides.

Water-proof Paper.—M. Th. Anger exhibited, at a recent meeting of the Société de Chirurgie in Paris, a specimen of water-proof paper prepared with glycerine, which would take the place of oil-silk or india-rubber cloth in many cases, and could be made very much cheaper.

Dr. M. Ritter has been appointed Professor of Medical Chemistry and Toxicology in the Medical School at Nancy.

M. Alfred Deshaies, an assistant in the Department of Chemistry in the Collège de France, was recently found dead in his laboratory. It has been supposed that he had been experimenting on some compound, and had been poisoned thereby.

An Electrical Plant.—The *Horticultural Gazette*, of Nicaragua, says *L' Union Médicale*, publishes some statements regarding a plant of the family of the *Phytolaccaceæ*, which grows in that country, and possesses electro-magnetic properties. When one touches a twig of the plant the hand receives as vivid a shock as from a Rhumkorff battery. The reporter, surprised at the phenomenon, made some experiments with a small compass. Seven or eight paces off the influence of the plant made itself felt. The deviation of the compass-needle was in proportion to the distance; the nearer it was brought the more marked the movements became, and when the instrument was placed in the middle of the bush the movements were changed into a rapid rotation. The subjacent soil did not contain any iron or other magnetic mineral. There was not any doubt that the electric quality resided in the plant itself. The intensity of the phenomenon varied with the time of day. At night it was scarcely perceptible; at two o'clock P.M. it attained its maximum. During a thunder-storm its power was increased, but when it rained the plant faded. The reporter has never seen birds perch nor insects light upon the *Phytolacca electrica*.

Ether Drinking in the North of Ireland.—Mr. H. N. Draper, who in 1870 made a communication to the *Medical Press and Circular* on the subject of ether drinking, has contributed further facts to the same journal of the 30th of May. "When ether first appeared in County Derry (said to be about 1842) 'the wonderful new drink' was greatly spoken about, and people became gradually acquainted with it, its use at length spreading rapidly until it came to their very doors. The publicans in Maghera do not sell it, but it is got at the shops of the petty grocers, who obtain it from the local druggists, and who, it is said, sell it at a large profit to people who would not drink whiskey. The dose is half an ordinary wineglassful, or rather less. Many drink it pure, taking about the same quantity of cold water immediately after it. Others mix water with it, using equal parts, while some take it mixed with only about one-fourth part of water. Water seems in all cases to be swallowed after the dose." The use of ether reached a climax in the locality referred to about 1869, since when, through the efforts of the clergymen, it has decreased somewhat. The ether was at first used pure for some years, but it is said to have been of late greatly adulterated. Towards the end of 1875 a young man was said to have died suddenly from excessive use of ether and whiskey, and an account is also given of a man whose breath ignited during the attempt to light his pipe soon after taking a drink of ether. Loss of sight and insanity are also reported as effects of the use of ether as a stimulant.

Salicylic Acid is being largely advertised in France for preserving wine, beer, and cider during the summer heats, and for preserving milk and *bouillon* from souring; also for aiding the preservation of jams, jellies, and other confections, with an economy of sugar, said to amount to 25 per cent.

A First-Class Notice for nursing bottles is the one recently sent by the well-known writer Dumas *fils* to the *directrice* of an infants' hospital in Paris. Speaking of the popular aversion to artificial nursing, he says: "The nursing-bottle is in entirely too much discredit. I myself was brought up with one, and it happens that on this very day, July 27th, I am fifty-three years old, and have never had a serious sickness."

British Pharmaceutical Conference.—Mr. G. F. Schacht, of Clifton, succeeds to Dr. Redwood as President of the above association. Prof. Attfield, of London, and Mr. F. B. Benger, of Manchester, continue to act as general secretaries. The next meeting will be held in Dublin, where the local secretary will be Mr. W. Hayes.

Jalap Culture in Jamaica.—Nearly two acres of land attached to the Cinchona plantation of the botanical garden in Jamaica is now systematically cropped with jalap. The product last year amounted to 1,700 lbs., and 3,000 lbs. additional were expected to be obtained in the course of last spring.

SUPPLEMENT TO
"NEW REMEDIES," an Illustrated Monthly Trade Journal.
New York, Oct. 15, 1877.

WILLIAM SAUNDERS, LONDON, ONT.

President, American Pharmaceutical Association.

1877.

From a Photograph by
Notman & Frazer, Toronto, Ont.